1992 MANITOBA BEEF CATTLE SEMINAR JANUARY 21st-22nd

Manitoba Agriculture

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ACKNOWLEDGEMENTS

Welcome to the 1992 MANITOBA BEEF CATTLE SEMINAR. I would like to take this opportunity to say thank you to the Planning Committee for their assistance in putting together this year's program. Committee members were: Norm Hemstad, Rob McNabb and Bill Steeds of Manitoba Agriculture; Gerry Gordon of Feed Rite, Ritchie Bickford of the Douglas Bull Test Station; Doug McLaren, Lyall Edgerton, and Clair Manshreck. A special thank you to the Manitoba Beef Cattle Performance Association for their administrative assistance.

Keith Levenick, Principal
Agricultural Extension Centre

MANITOBA BEEF CATTLE SEMINAR

January 21 & 22, 1992
Agricultural Extension Centre
Brandon, Manitoba

The 18th BEEF CATTLE SEMINAR features speakers from Quebec to Alberta. Topics range from day-to-day management problems to a look at the future in Marketing and Animal Welfare.

There are several sessions of special interest this year. Dennis Laycraft will update us on where the North American beef market is headed. We will take an in-depth look at feet and leg problems with Dr. Greenough. And our Tuesday evening feature speaker, Alan Herscovici, will outline the impact of the Animals Rights movement on agriculture - especially in Ontario. More importantly, he will speak on how we can deal with this concern and maintain a viable animal agriculture industry.

Come on out to visit with old friends, talk to the speakers, and see the displays!!

AGENDA

TUESDAY, JANUARY 21, 1992

Chairperson: Norm Hemstad, Manitoba Agriculture, Brandon

11:00	REGISTRATION, COFFEE, VISIT DISPLAYS
12 Noon	LUNCH (available at Ag. Centre)
1:00	**Future of the North American Beef Market** - Dennis Laycraft, Manager, Canadian Cattlemen's Association
1:45	QUESTIONS
2:00	**Update on Regional Beef Disease Problems** - Dr. Frank Baker, Manitoba Veterinary Services, Winnipeg
2:45	QUESTIONS
3:00	COFFEE
3:30	**Fly Control: Ear Tags, Dustbags, and Oilers - What Works? Where?** - Andy Kolach, Entomologist, Manitoba Agriculture, Winnipeg
4:00	**Workshop on Feet and Leg Problems (Part 1) Nutrition Problems, as Reflected in the Claw** - Dr. Paul Greenough, Western College of Veterinary Medicine, Saskatoon
5:00	QUESTIONS AND VISIT DISPLAYS
6:00	ROAST BEEF SUPPER - AG. EXTENSION CENTRE
7:00 - 9:00	**Animal Rights - The Impact on Agriculture and What to do About It** - Alan Herscovici, Outremont, Quebec
9:00	**Bull Session** in Games Room

WEDNESDAY, JANUARY 22, 1992

7:00 a.m.	BREAKFAST - AG. EXTENSION CENTRE
8:30	**Implications of the New Grading System** - Dennis Laycraft, Manager, Canadian Cattlemen's Association
9:00	QUESTIONS
9:15	**Workshop on Feet and Leg Problems (Part 2) Conformation - Presentation** - Dr. Paul Greenough, Western College of Veterinary Medicine, Saskatoon
10:15	QUESTIONS
10:30	COFFEE AND DISPLAYS
11:00	**Does Higher Protein Mean Better Performance?** - John McKinnon, Saskatoon
11:30	QUESTIONS
11:45	**M.C.P.A. Reports on: The Crow, Red Meats Forum, and Their Role in Manitoba's Beef Industry** - Dave Fulton and Sid Wikenson
12:15	QUESTIONS
12:30	LUNCH (available at Ag. Centre)

SEMINAR SPEAKERS

DR. FRANK BAKER - Join us as Dr. Baker, from the provincial Veterinary Services, reviews the beef disease situation around the province. This may be an important consideration when buying stock from other areas.

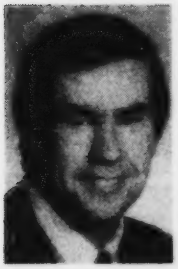
ANDY KOLACH - Andy is one of Manitoba Agriculture's most experienced Extension Entomologists. He will update us on the latest information on fly control.

DR. PAUL GREENOUGH - While based at the Veterinary College at Saskatoon, Dr. Greenough has been conducting workshops on "feet and leg problems" all across Canada. This year we are fortunate enough to have him at our Brandon seminar.

SEMINAR SPEAKERS

ALAN HERSCOVICI - He has conducted workshops on "animal rights" with farm groups across Canada, and recently wrote "Food For Thought," answering many questions city people now ask about agriculture. He is also the author of *Second Nature: The Animal-Rights Controversy* (General Publishing, 1991), the first book to expose the inner workings of current animal-rights campaigns.

DENNIS LAYCRAFT - As General Manager of the Canadian Cattlemen's Association, Dennis brings us a national perspective to both the future of the North American Beef Market, and how the new grading system fits into a value-based market.



JOHN McKINNON - Formerly from Manitoba, John is now a Research Associate at the University of Saskatchewan. His recent work using higher protein levels in the beef feed rations will apply to Manitoba, as well as Saskatchewan.

THE NORTH AMERICAN MARKET - WHERE IS IT HEADED

COMMENTS TO THE 1992 BEEF CATTLE SEMINAR

PREPARED BY DENNIS LAYCRAFT, DECEMBER 1991

INTRODUCTION

It is my pleasure to be invited to participate in your 1992 beef cattle seminar and to present my views on the North American market - Where Is It Headed. The request is timely as the Canadian Cattlemen's Association is working on a "Strategic Plan " examining this very issue.

There are a number of clearly emerging trends, many global in nature, along with a number of areas of uncertainty. The key trends include:

1. Globalization
2. Consumerism and Changing Consumer Expectations
3. Environmentalism and Sustainability
4. Animal Handling Practises
5. Changing Government Role

The uncertainties will include the outcome of the GATT, the NAFTA, the restructuring of the Soviet and Eastern Block economies - and the impact this will have on the market place, particularly for grains.

We are in the midst of a period of unprecedented change. The rate of change will continue although many people are reverting back to more traditional values to obtain a greater sense of security to cope with it. For instance the trend to revert back to more traditional meals.

I will attempt to put these changes in perspective and talk about the future direction of the NA market .

1. GLOBALIZATION

The world economy is becoming globalised. The outcome of the present round of GATT will merely shape the course that it takes. The rapid and ready means of communication and exchange of goods and services are driving this change. New trading blocks and economic alliances are being developed (Europe 92. North America, Asia) in addition to those created in the late eighties. Industries are being compelled to rethink their plans, investment strategies, and marketing efforts to achieve international competitiveness. The regulatory environment must provide a suitable climate in which private industry can meet these challenges.

In our industry, the restructuring that has occurred is very similar to what has occurred in Australia and the United States. There has been considerable rationalization in the packing and processing sectors. The location of the feeding industries have shifted - or in Australia's case has been expanded to respond to emerging global opportunities (although the results have been mixed).

Beef trade has increased. The FTA has created an environment for increased two way trade in beef products between Canada and the U.S. Our production sector has proven itself to be competitive in this environment. The packing and processing sector is adjusting to the new market realities. This will mean fewer large plants along with the smaller plants becoming specialized. In world trade the Cargill and Lakeside plants, the two largest in Canada are mid size plants.

We are quickly becoming a Canada/U.S common market for cattle and beef. However a number of very important harmonization issues remain to be resolved in the areas of import laws/tarriffication, inspection, grading, and labelling.

As these changes occur, increasing high quality beef demand in the Pacific Asia region will create increased opportunities to produce and market these products. North America is by far the largest producer of high quality beef and is well positioned to take advantage of these growing opportunities. The Canada Beef Export Federation was formed to assist in developing a coordinated industry/government effort to assist in the promotion and marketing of our product into those markets.

INTERNATIONAL ISSUES

a) GATT - The final results arising from the Multi-Lateral round of negotiations under the GATT will have profound implications for all of Canadian agriculture and will impact on such issues as government support programs, market access and a range of competitive factors. At the time of writing - it appears that an agreement can be reached. At the time of presentation, we expect the issues to have been resolved one way or another.

(b) Developments in Eastern Europe and in the developing countries will have an impact on world food markets and especially grain prices. Long term the changes should lead to substantial economic reform. However in the short term, the Soviet economy is on the brink of collapse. Their impact on the world market will be directly related to international aid and credit.

(c) World population growth (which is predicted to double by the year 2030) will impact on commodity markets and especially the value of different types of food.

NORTH AMERICAN FACTORS

(a) The CUSTA is still an unknown quantity in many respects. Important to the beef industry will be whether non tariff measures are reduced and how subsidies are defined.

(b) The proposed North American Trade Agreement should not have a major impact on the beef cattle industry but will serve to emphasize the North American nature of the beef and cattle market and will put more pressure on the Canadian industry to trade north and south. We sell a substantial quantity of seed stock to Mexico. Maintaining favorable treatment in relation to the U.S. and Mexico is very important along with ensuring that sanitary issues are properly addressed to protect the health status of our herd.

2. CONSUMERISM

Society has evolved into the information age. Consumers are now better informed - or in the case of some, better misinformed than ever before. They demand more variety, convenience, ease of preparation, labelling information, and assurances about safety, wholesomeness, and the environment.

The rise in consumerism related to food safety and concern about the global environment will create a host of new challenges and opportunities for industry. A

balance between competitiveness and sustainability will be the focus of the policy agenda.

Diet/health concerns remain the number one concern about beef with environment issues on the increase. However, as a whole people are currently more concerned about the economy/recession.

Greater urbanization will continue and the population as a whole will become further removed from the "land". Communication will become an increasingly important factor.

We still face some of the residual impact of the negative stories about our product from the 80's . However we now see many more positive stories and the informed diet/health issue has shifted to "fat" and away from cholesterol. Canadian Beef is clearly the world leader in high quality lean beef production. Through the Beef Information Center and the Canada Beef Export Federation we have the opportunity to turn this issue in our favor. As producers it will become increasingly important to ensure the safe use of any treatments or use of products in order to maintain our exceptionally high standards of product safety.

3. ENVIRONMENT

The "Environment" has been described as the issue of the nineties. Although economic concerns are now first and foremost - environmental concerns remain quite high and are significantly influencing lifestyles and the regulatory environment. What is encouraging is the fact that many sponsors or advocate groups have become more careful about their support or comments. The general public is becoming more

skeptical about who to believe. Affirmative action will be viewed more favorably than statements.

Having said that, the cattle industry has always prided itself on its important role in sustainable agriculture. Cattle producers are responsible stewards of the land who have an impressive record in preserving and improving the quality of the land base and the environment. Most of the land that is preserved in its natural state or at least with permanent vegetation is the result of its use for the grazing of cattle. Forages help to replace valuable nutrients in the soil and to manage problems with salinization. We were conservationists long before it became popular. Unfortunately as the urban population becomes further removed from their rural roots, this knowledge is being lost.

To formulate a plan to deal with this emerging problem, the CCA has established an environment committee, employed an "environmental coordinator", Ms. Peggy Strankman, and has developed a comprehensive environment program to deal with this issue. As part of this plan, information on improved production and conservation practises will be made available to producers. We feel that education and extension activities are a better alternative than the threat of increased regulation. As individual producers, it will be important to remain abreast of this new information and to contribute your ideas and success stories to this process.

4. ANIMAL CARE

There are really two different groups involved in this issue. There is the radical "animal rights movement" and the more responsible animal welfare groups.

The animal rights movement wants to legislate rights to animals the same as they are afforded to humans and are promoting a vegetarian alternative to meat. The animal welfare movement is more concerned about the humane treatment of animals. We have been able to develop a positive working relationship with the Canadian Federation of Humane Societies and many of their regional members.

The CCA, in conjunction with other groups and the CFHS, developed the Animal Care Code of Practise for the voluntary use by producers. It serves as an education tool.

This issue will continue to grow. It is important for us to constantly seek improved livestock handling procedures. Obviously it is in the best interests of producers to take proper care of their livestock. With a proactive approach I believe that we can stay ahead of this issue and prevent unnecessary regulation. Issues such as time of treatment, identification, and handling procedures will require careful consideration.

5. ROLE OF GOVERNMENT

The role of government is changing. There is a general movement away from intervention and towards encouraging greater market responsiveness. The economic crisis in the Soviet block is being viewed as a clear failure of "state" control over the economy. The thrust of GATT is to reduce and hopefully eliminate those border measures and programs that interfere with trade. Domestically, it is a stated objective of our "Growing Together" review to become more self reliant and market responsive.

There will be a clear trend towards greater self reliance as governments grapple with the serious problems of the burgeoning national (and provincial) debts facing many countries - particularly Canada and the United States. Governments simply can not afford to sustain the rate of expenditure without seriously undermining their basic economy.

A new regulatory environment is needed to afford the agricultural sector the ability to become more flexible and adaptable to the emerging global environment.

The cost of government services will be borne more by users than taxpayers. Wherever possible, services will be cost recovered, privatized, or turned over to "industry" with some powers to undertake them. Areas such as research are targeted to "encourage greater private sector initiative".

The trend is to "re-regulate" in such a way as to afford industry more control over regulatory matters outside those that are deemed necessary to protect consumers and integrity of the market place (ie: safety and health, fraud, environment, etc). Unnecessary regulations will be replaced by "manuals" and codes of practice.

Influencing government policy will become complex as a wider range of interests become active in agricultural issues. The environmental movement, the animal rights movement, and so forth will only increase their activities to influence government. Having effective organizations at the provincial and federal level will become even more important in the future.

6. PRODUCTIVITY

The beef industry has achieved steady productivity gains over the last twenty years. However average productivity per cow in the industry remains well below the genetic potential in the beef cow herd. The following productivity factors will have to be considered by individual producers and by the industry over the next five to ten years:

(a) Genetic improvement and especially the possible use of biotechnology in beef cattle genetics.

(b) Improved fertility and increased pounds weaned per cow.

(c) Improved health protection. Preventative management and the extent to which we are going to be allowed to produce and access new drugs and other animal health technologies will be important.

(d) Improved nutritional regimes, especially in the backgrounding and finishing operations.

7. DEMAND FOR THE PRODUCT

Beef consumption in Canada has been relatively firm through the late eighties possibly as a result of promotion efforts. Retail consumption of beef in 1990 is estimated at 59.2 lbs per capita compared to 60.4 in 1989. This has ranged between 59 and 61 for the last 4 years. U.S. beef consumption in 1990 was just over 67 lbs per capita and is estimated steady for 1991.

The demand for Canadian beef and other products of the beef cattle sector will continue to be dominated by the North American market for the foreseeable future. However offshore markets will play a role, especially for certain cuts. The following factors will be important in determining the demand for Canadian beef:-

(a) Domestic Demand - which will be set by population growth and per capita demand. It now seems apparent that unless there is significant immigration, the Canadian population will remain static through the next decade. At the same time, per capita demand will at best be held at current levels. It therefore seems apparent that little growth can be expected in domestic demand. In addition there will be increasing competition in certain markets from imported US product.

(b) U.S. Markets - at this point provide considerable opportunity for Canadian beef. Access to the US market will be determined by political developments in both countries. If Canada wishes to export beef, as opposed to fed cattle or feeder cattle, the Canadian industry will have to make changes to a number of its current procedures.

(c) Offshore Markets - are currently limited to those in Pacific Rim countries. If Canada can be competitive in the US market, we can also be competitive for certain types of beef in such markets as Japan and Korea into which the US is selling beef.

(d) Case Ready Product - Retailers have indicated that they expect a shift to "case ready" beef products over the next two to five years. This will afford the industry with numerous opportunities for merchandizing innovations but most importantly will lead to greater centralized processing. For instance, cooking instructions could easily be applied to the package.

e) Competition From Other Meats - While beef supplies have declined, competitive meats have increased and will offer strong competition. The value perception of consumers will remain very important in positioning our product.

f) Vegetarian Movement - Some consumers will follow a vegetarian diet. Some for religious reasons, others as part of a fad. We must effectively reassure consumers about the safety and wholesomeness of our product and our humane handling practises. I believe that the vast majority of consumers will continue to consider meat as an important part of a well balanced diet.

g) New Products - The most successful new product has been a lean hamburger, even though numerous other excellent products have been introduced. It's success was due largely to the marketing ability of McDonalds, it appealed to the "diet conscious" segment, and it is a fast, convenient, and consistent product. It also demonstrated that people who have switched away from beef due to concerns about fat could be brought back. The "Certified Angus Program" and the "Limousin Lean" program in the U.S. are two other examples of successful niche marketing efforts. One promotes a gourmet product, the other a lean product. It demonstrates that the market is increasing segmented. It is also quality and value conscious. Beef must be able to meet these challenges to maintain its share of the retail counter and food service plate. Producing a consistently tender, lean, high quality, grain fed product can be Canada's competitive advantage. At the same time we can strive to produce a traditional marbled product with minimum external fat cover to satisfy the gourmet side.

8. NORTH AMERICAN MARKET

CURRENT SITUATION

a) Cattle Numbers

Total cattle and calves in Canada on July 1, 1991 were 12.4 million, up 1% from last year. Total beef cow numbers were up 3% at 3.7 million. These numbers confirm the continuing modest growth of the last few years. Modest and cautious growth is expected in 1992. Smallest numbers in this cycle occurred in 1987 and there has been cautious re-building since then.

The dairy herd continues to shrink with a 1.% decline in 1991. Over the past 10 years, the dairy herd has decreased 21% going from 34% of the total cow herd in 1981 to 27% in 1991.

The U.S. inventory situation is lagging behind the Canadian move towards expansion. This is due to the fact that the Canadian herd experienced a more dramatic sell down through the eighties so the shift back to expansion has had some "catching up" to do in Canada. However, most factors are indicating the U.S. herd is in the early stages of expansion. The July 1, 1991 inventory was up 2% at 109.8 million head. We are told that they have the oldest herd on record at this time.

b) Cattle Movement

Feeder cattle exports to the U.S. last year were up in the first 9 months but have now tailed off. It is unlikely that they will resume in quantity some time depending on U.S. fed cattle prices.

WHERE IS IT HEADED?

a) We are moving into a common market with the U.S. Competition will be strong but we have many advantages and can benefit by the restructuring that will occur. We need to negotiate further harmonization, grade equivalency, and improved labelling regulations.

b) Canada's regulatory and policy environment must change to eliminate provincial barriers, unnecessary regulatory cost, and encourage competitiveness - not to suppress it. A more compatible policy environment must exist between the grain and livestock sectors.

c) North America is the world leader in high quality beef products. Canada is the leader in genetics and in high quality lean beef production. We must maintain this edge through further improvements.

d) Competition from competitive meats will remain strong - however the genetic potential, productivity advances, and the sustainable nature of the cattle industry, along with animal care concerns, offer our industry the ability to maintain our position as the favorite meat. If we are unable to achieve these gains - price competition will further erode our share.

e) The shift towards further central processing (case ready product), direct product profit merchandizing versus the traditional gross margin approach, the new grading system, and the "War on Fat" program in the U.S. will lead us towards improved value based marketing. Improved information transfer and price discovery will enhance our ability to achieve this.

Exports of slaughter cattle to the U.S. have increased over the last several years and now represents about 19% of the Canadian slaughter. When looking at the fed cattle totals, 10% of this country's fed cattle are being exported.

c) **Trade**

1990 was a record year with almost $1 billion occurred in export trade with almost $700 million in sales of cattle and just over $250 million in beef and veal.

The 1990 total value of exports was up 66% from 1988 and 1989 when roughly $550 - 575 million occurred. The $950 million represents just under 700 million lbs. of cattle and beef. 1991 exports are expected to be down a little from 1990.

Imports during 1990 were also up as with exports, this figure was a record high of just over $600 million. Of this figure, only $17 million was live cattle and the remainder fell into beef and veal. The 1990 figure was up 12% from the 1989 total of $530 million. About 350 million lbs. of beef were imported. Imports in 1991 from the U.S. are up about 40%%.

This import - export trade confirms the trend towards increased two way trade.

Beef exports to Japan slowed slightly in 1990 at $18 million (about 10 million lbs) versus $27 million in 1989. This, however, is thought of as a "temporary interruption" in trade due to increased tariffs as part of the liberalization process. The tariffs will be phased down and longer term forecasts put estimated exports to Japan at 165 million lbs. by the year 2000.

One possible scenario in the near future could be the use of electronic identification. For instance: electronic identification on the animal is transferred to an electronic rail hook at the packing plant. The grade designation and other info on the carcass are transferred into a computer. That information can be used to transfer information to researchers, back to the producer including the cow calf sector, for trace back of any abnormalities such as injection scars, disease problems, or genetic evaluation purposes, etc. Obviously some problems still need to be worked out and permanent range ID remains a necessity.

f) Commodity prices could face volatile conditions for several years. Producers will need to manage risk very carefully during this time.

10. CANADIAN CATTLEMEN'S ASSOCIATION VISION STATEMENT

Finally in closing, I will share with you the vision statement that the Canadian Cattlemens's Association has established. "The CCA and its affiliate members believe that, given the right economic and policy environment, the Canadian beef industry can compete successfully in the domestic, North American and offshore markets. The CCA will work towards developing a profitable, competitive, market oriented industry with a minimum of government involvement and located according to regional comparative advantage. Key to the achievement of this vision will be assured access to markets and a policy and regulatory environment that enhances the competitive position of the Canadian industry."

THANK YOU

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FLY CONTROL: EAR TAGS, DUST BAGS - WHAT WORKS

There are many species of flies that pester livestock on pasture in Manitoba. These include horn flies, mosquitoes, black flies, horse flies, deer flies, stable flies, face flies, biting midges and a few others. Of these, the horn fly is present on cattle all summer long, while all the others come and go in seasonal patterns. The horn flies' habit of staying on the animals almost full-time during the entire summer has led to fairly practical, inexpensive and minimal time consuming methods of control than for the other pests. For the remaining biting flies, control methods either do not exist or would require more time, effort and expense than most livestock producers would find acceptable. My presentation today will focus on the horn fly, its life history, behaviour, threshold levels, resistance to pesticides and options to consider for control methods.

The horn fly was first discovered in Canada in Ontario in 1892. It has since spread all across Canada and become a serious pest of cattle. The fly first appears in early spring, usually late May in Manitoba, having spent the winter in soil or in a dung pat as a late instar larvae or pupa. The female fly, after taking a blood meal from its host, flies to a fresh dung pat, deposits a dozen or more eggs and returns to the animal. Maggots usually hatch in about 24 hours and feed within the dung. The maggots may complete their development in a week or so and turn into a pupae usually in the soil near the dung pat. Development from egg to adult fly in the summer requires about two weeks. The fly breeds continuously all summer. Populations usually peak in about mid August, and remain until the killing frosts of September.

Studies have shown that horn fly can cause loss of gain in beef production by as much as 0.8 kg per day. Studies also indicate losses in milk production in dairy herds by as much as 10-20% from horn fly. Factors such as fly numbers, pasture quality, herd health, etc., can vary the extent of losses. Researchers have worked out a threshold level for the horn fly for beef cattle at 40 horn flies per animal and for dairy cattle 20 horn flies per animal. Cattle having these numbers of horn fly or greater would probably benefit from control. It is common in Manitoba that most cattle herds have far greater numbers of horn fly than these threshold levels in most summers. Therefore, control of horn fly would probably be warranted in most herds.

Control methods for horn fly in the past included sprays, dusts and self treating devices. Self treating devices have probably been favoured most because of their time saving feature. Cattle oilers have been used for many years and are effective, providing they are maintained regularly, and placed in areas where cattle will readily use them. Sprays require rounding up cattle and running them through a chute, a method that requires considerable time and effort. Dust bags, when properly located, will control horn flies very effectively. Ear tags impregnated with insecticide, and ear tag tapes have been recent practical control methods for horn fly. On small herds, dusts applied by hand may be a practical method of control. An even more recent control method is Ivomec Pour-on which only just recently received registration for horn fly control on beef and non-lactating dairy cattle. There are therefore a number of effective control options and products that should suit the needs of almost every cattle producer, including sprays, dusts, oilers, ear tags, ear tag tapes, and most recently pour-ons.

Because of their wide acceptance, ear tags have been the most readily used method in recent years. Currently available ear tags include Atroban, Austin, Bovaid, Guardian, Stockaid and Disvap. These tags will provide season long fly control, and should be put on at the beginning of the fly season. Ear tags will also provide some face fly reduction.

Because of the wide acceptance and use of synthetic pyrethroid ear tags (Atroban, Bovaid, Guardian, Stockaid), resistance to these products has now developed in Manitoba. Studies carried out by the Entomology Department, University of Manitoba, first confirmed resistance in 1988, and since shown it to be quite widespread throughout the province. Where resistance is known, cattle producers must consider other options for horn fly control. Where resistance is not yet indicated, producers should alternate their control methods to avoid or at least delay resistance. Options include using organophosphate ear tags (Austin, Disvap) or organophosphate or carbamate dusts, oilers, sprays or pour-ons. As far as is known, the horn fly is not resistant to the organophosphate or carbamate insecticides or Ivomec.

Ivomec Pour-on is now registered for horn fly control on beef and non-lactating dairy cattle. Ivomec Pour-on should be applied along the top line of the animal in a narrow strip from the withers to the tail head. The dosage rate is 1 mL of product for each 10 kg body weight. Ivomec is effective for control of horn fly for up to 35 days. Cattle treated with Ivomec must not be slaughtered for use in food for at least 49 days. The pour-on is a new method of application of a pesticide for horn fly control, and only time will tell how practical and effective it will be.

In summary, for the present time, practical and effective controls do exist for the horn fly that most producers can use in their livestock management systems. If resistance to synthetic pyrethroid ear tags has developed, there are suitable options. Resistance can possibly be delayed where it has not yet occurred by alternating between classes of insecticides. New products for horn fly control are being investigated with promise for the future.

LAMINITIS, MANAGEMENT AND NUTRITION THE WAY TO CONTROLLING LAMENESS IN DAIRY CATTLE

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INTRODUCTION

In recent years European veterinarians have come to realise that when lameness becomes a herd problem it is necessary to look further than at accidental causes for an explanation. More and more evidence is being accumulated that laminitis (founder) is the underlying cause of much of the lameness affecting dairy heifers and cows. Foot problems are being more frequently reported in first calving dairy heifers today than they were perhaps ten years ago.

Laminitis is not restricted to dairy cattle; accelerated weight gain in young beef bulls can bring about founder-like changes. It is highly probable that the feet of bulls can be ruined for life as a result of inappropriate management while they are still less than 14 months of age.

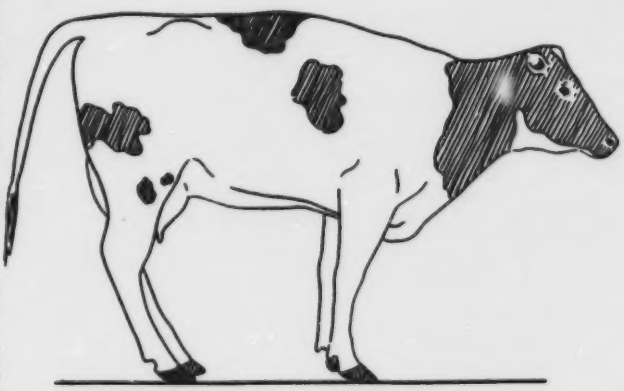
In response to, what appears to be an increasing problem, animal scientists and veterinarians from many countries gathered together in Liverpool, England in July, 1990 to share their experience and knowledge. In Saskatchewan, funds have been made available through the Agricultural Development Fund and the Animal Health Trust of Canada to conduct research with both beef and dairy cattle. This paper reviews new information based partly on our own research and partly on the findings of European research workers.

CHANGES IN THE WAY THAT AN ANIMAL STANDS OR WALKS

Lameness has many causes and is therefore a sign of many different diseases. Most of the causes of lameness are associated with pain, either in the upper limb or in different regions of the claws. Lameness can also be caused by the failure of nerves, muscles or bones but these problems will not be discussed in this paper.

Pain can occur in one or both claws. The 'seat of lameness', where the pain is located, can be in the toe region or the heel region of the claw. For each location, an animal will have a special way of trying to ease the pain. Sometimes an animal will stand with an abnormal posture, which may be interpreted by an inexperienced observer as a fault of conformation. It does happen that excellent young animals may be culled for ' feet and legs' or conformational defects when really they have pain in their feet. It is important to develop the skill of recognizing how pain in the feet affects cattle.

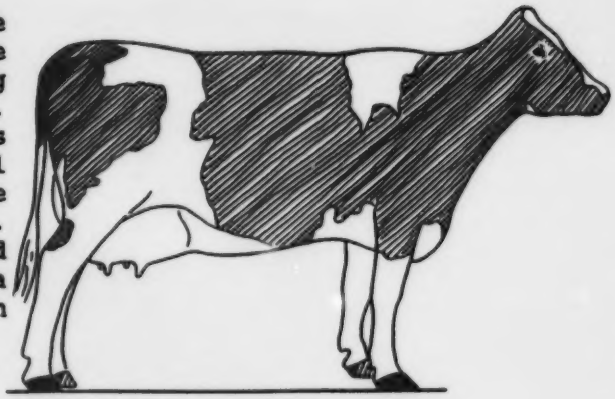
Camping Under This term is used to define the posture of an animal that carries its hind feet further under the body than normal. There may be a tendency for the back to be arched. This stance or posture is very typical of laminitis. and is **very frequently** confused with the with the conformation characteristic 'sickle hock'. An animal affected with laminitis will also camp under when it walks. Both feet will be carried well forward in the first phase of the stride and the foot will be lifted from the ground soon after the limb has passed the vertical. The first and second phases of the stride are unequal. An animal that is lame in one foot for reasons other than laminitis will also carry the affected foot well forward when walking if the pain is in the toe.



Camping under

Camping Back An animal that stands camped back will be holding its hind feet well behind the vertical. This indicates pain in the heel region and is a very typical stance or posture associated with ulceration of the sole or severe erosion of the heel. It must be emphasized that many veterinarians believe that a high incidence of sole ulcer is an indication that laminitis is the underlying cause. Sole ulcers are commonly found in the outer claws of dairy cows but only rarely in beef animals.

An animal that has a sore heel for any reason will be reluctant to bear weight during the first phase of the stride. It will not carry the limb as far forward as would be normal and the second phase of the stride tends to be prolonged. Again it must be emphasized that camping back is not a defect in conformation but an acquired characteristic.



Camping back

Walking Narrow When viewed from behind, cattle normally walk with the limbs and feet well separated. Pain in the inside claws will cause an affected animal to bring its hind feet close together when it walks. Laminitis can and frequently does affect only the inside claws. To the untrained observer it may appear that the animal is bow legged which would be a deficit in conformation.

Severe pain in the inner hind claw(s) will sometimes cause an animal to stand with its legs crossed. It is not unusual to observe this type of stance (posture) in animals in which either the distal phalanx (toe bone) is fractured or has acute laminitis.

Knuckling Over This is another characteristic stance or gait which, in this case, indicates pain in the heel. In a normal hind foot stride, the heel touches the ground first and during initial weight bearing the fetlock and pastern joints are held fixed until the second or lift off stage of the stride. The animal that has a sore heel will sometimes bring the toe to the ground first but this can only be accomplished if the fetlock is slightly bent during the first phase of the stride. The act of knuckling over is performed extremely rapidly. Before this sign can even be seen, an observer needs to have had a great deal of practice in observing cattle walk. An inexperienced observer will often state that the animal is 'walking funny'.

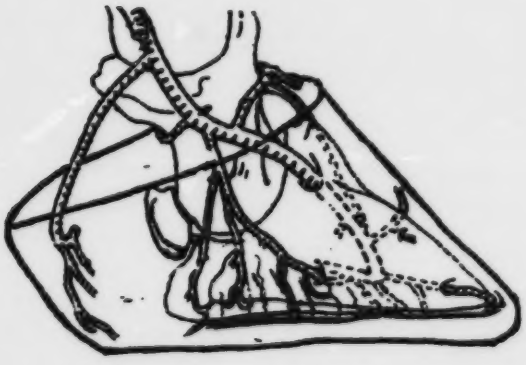
Normal Knuckling

Walking funny is sometimes also used to describe the manner in which a young animal with over-grown claws will walk. Sometimes young bulls are culled because they have overgrown claws when they are perhaps 12 to 14 months of age. We have discovered that it is quite normal for steers that are experiencing high average daily weight gain to produce sole horn at rates in excess of 2.5 times normal. Sole horn is also produced more rapidly in very cold weather because the perfusion of blood through the claw occurs at a rapid rate in order to keep the tissues of the claw warm. In other words it may not be wise to cull **young cattle** because they have overgrown claws. With older cattle the situation may be quite different. Workers in Colorado have shown that certain lines of older bulls do transmit a predisposition to claw overgrowth.

Down at Heel

Workers in the US have reported a correlation between heel hight and high milk production. The desired heel height is considered to be 1.5 inches. Care should be taken in interpreting this observation. Mature cows may be low at the heel due to wear, they may also be high producers. In this event the low heel is very likely to be an acquired characteristic that may be unrelated to the animals level of production. Heifers by contrast tend to have blocky feet. There is no doubt that the shape of the claw changes as dairy cattle grow older therefore selection on the basis of heel height should never be made in animals over 24 months of age.

SOME OF THE STRUCTURAL FEATURES OF THE COWS CLAW



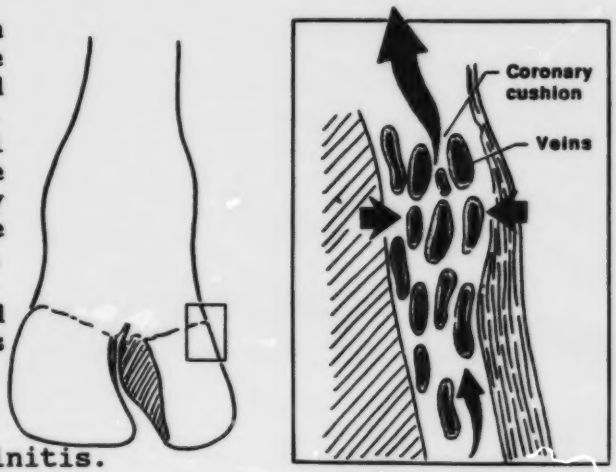
The corium of the claw is a layer of fine blood vessels and elastic tissue sandwiched between the horny hoof and distal phalynx (toe bone). The blood supply to the corium feeds a network of very delicate vessels that nourish the stratum germinativum which is the layer of cells that produces horn. Every time the animal bears weight on its claws, these tiny blood vessels are compressed. Why then do they not burst under the pressure?

Three mechanisms to relieve pressure inside the claw.

1) Glomus bodies. Glomus bodies are expandable vessels forming bridges between arterioles and venules into which blood can be diverted when the pressure inside the claw increases. As the pressure from weight bearing is relieved, tiny muscles in the walls of the glomus bodies squeeze the blood back into the circulation. The muscles in the glomus bodies can be paralysed by poisons in the blood.

2) Arterio-venous shunts are simple bridges between arteries and veins. Muscles are present in the walls of these shunts. When the animal bears weight on the claw, the muscles relax opening the shunt, allowing the blood to be diverted directly from larger arteries into veins. This mechanism prevents the build-up of pressure inside the claw. The muscles in the arterio-venous shunts can also be paralysed by poisons in the blood.

3) The coronary cushion lies directly beneath the coronary band and is composed of a spongy network of veins. As the animal moves, the distal phalanx presses against the wall of the claw thereby squeezing blood back into the circulation. Exercise, therefore, is extremely important for keeping blood circulating through the vessels of the claw.



These three mechanisms play an important role in laminitis.

THE CAUSE OF LAMINITIS

Most research workers agree that nutritional factors are the most important cause of laminitis. This observation is by no means cut and dried. Animals fed exactly similar rations under apparently similar circumstances are not always affected in a similar manner. It has been suggested that many factors are involved in causing laminitis; it has a multifactorial etiology. Later in this review, some factors other than nutrition will be considered.

It has been established that the consumption of high levels of readily digestible carbohydrates leads to the proliferation of Streptococcus bovis and Lactobaccillus species in the rumen. Rumenal acidosis occurs, with the result that gram negative organisms are reduced in number often resulting in the release of

large amounts of endotoxin. Rumenal acidosis has been associated with both rumenitis and liver abscess.

Research has also shown that the consumption of high levels of carbohydrates is linked to the appearance of 'founder-like' changes in the claws. The release of toxins (poisons) that affect blood vessels (vasoactive) are believed to be involved in producing these changes. Correct ration management forms the basis for some of the measures for controlling laminitis and these will be discussed later in this paper.

The mechanisms by which vasoactive agents are produced is a topic about which there has been a great deal of speculation. Furthermore, because the true nature of these mechanisms has not been established there is no value in reviewing these theoretical mechanisms in this paper.

When vasoactive toxins reach the tiny vessels of the claw it is thought that the glomus bodies and the arterio-venous shunts are paralysed. The pressure inside the claw rises, the vessels are damaged and blood or the blood fluids soak into the horn claw staining it either pink or yellow. The flow of blood through the corium of the claw slows down, impeding the nourishment of the horn producing cells. The poor quality horn that results is softer and more easily damaged than is normal. Therefore, the tell tale signs of laminitis are, blood staining and/or yellow discoloration of the sole and sometimes the white line. Usually the texture of the sole horn is much softer than normal and it wears more rapidly than is normal.

An increase in blood pressure inside the claw, and the associated reduced blood flow, frequently leads to blood clot formation which is another characteristic feature of laminitis. The clots form a fine layer on the inside of the walls of the tiniest vessels. Because the vessels are narrower than normal, the blood flow through the claw slows down and there are fewer nutrients reaching the horn producing tissues. The blood vessels can eventually become completely blocked and scar tissue starts to form in the claw.

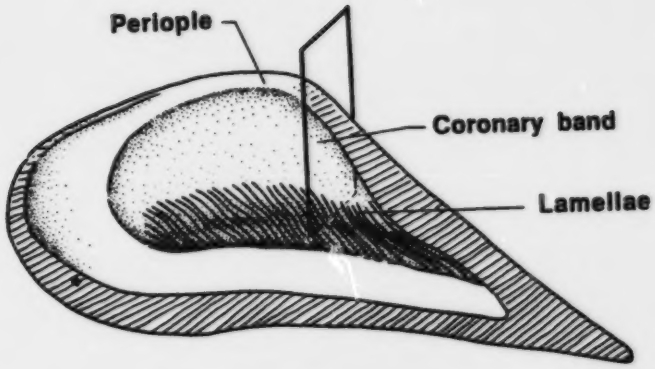
Frequently young animals appear to recover from a laminitic incident. This may be because new blood vessels develop to form collateral circulation and take over the function of those that have been damaged. Nevertheless, each time an animal has a bout of laminitis, more scar tissue is formed and the animal be less able to recover from the next 'insult'.

Work by Danish researchers has demonstrated that the toxins which affect the claws also affects other important organs in the body such as the liver and kidneys. These workers have also shown

that animals experiencing episodes of slight laminitis do not lactate as well as normal animals. This possibility should be born in mind if milk yields, particularly those of young animals, are 'disappointing'.

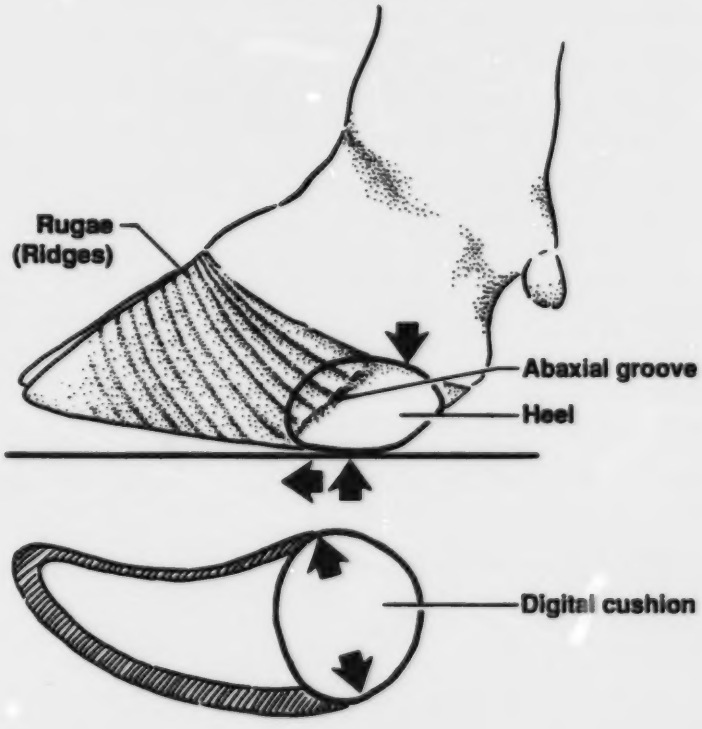
Earlier it was pointed out that the pumping action of the coronary cushion assists the blood to flow freely through the claw. Lack of exercise will reduce the blood flow. Therefore, it can be argued that reduced exercise for animals that consume large quantities of carbohydrate may increase the risk of laminitis. Pregnant animals, particularly heifers that are allowed free range before suddenly being confined and introduced to a rich diet at calving may be particularly at risk.

THE EXTERNAL APPEARANCE OF THE CLAW



The normal claw has a shiny appearance due to the presence of a specialized external layer of horn (stratum externum) which is produced at the skin horn junction by a structure called the periople. The function of the external layer is to prevent water from evaporating from the wall of the claw. The claw wall is continually supplied with moisture through tiny tubules running down from the coronary band. Reduction in the water content of the horn in the claw wall makes it brittle and susceptible to splitting (sand crack).

The wall of the claw can be compared to a U shaped spring. An elastic pad (digital cushion) is located between the ends of the branches of the U or at the heel. When the animal bears weight on the heel the elastic pad is compressed, expands side-ways and the pressure is absorbed by the spring. When the horn becomes dry and brittle it is less able to absorb the shock of walking with the result that the horn becomes prone to damage.



The external layer is lost as the animal gets older or can be removed mechanically by the action of wind blown dust or sand. Progressive deterioration of the external layer or loss of shininess of the claw wall is a sure indication that the claw is becoming brittle. Cattle that have successive bouts of laminitis also tend to loose the external layer and the external surface of the claw wall become rough and ridged. This is a typical characteristic of chronic laminitis. The changes indicative of chronic laminitis are first noticeable in the region of the coronary band. The coronary band will become rough and dark in color.

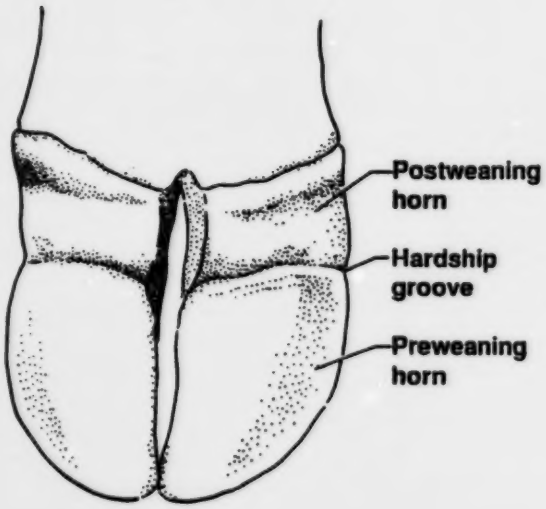
THE CLAW AS A DIARY OF EVENTS

When a hoof wall is examined carefully, fine ridges (rugae) can be seen running around the claw more or less parallel to the coronary band. In fact the ridges diverge slightly from toe to heel. This indicates that the wall immediately in front of the heel grows and wears faster than it does at the toe. The high rate of horn wear at the heel (and compensating high growth rate) is due to friction. The heel region is the part of the claw that contacts the ground first during locomotion and tends to slide to a halt before the entire sole contacts the ground. From the perspective of disease, the heel is the most important region of the claw. Sole ulcers, white line disease and heel erosions are diseases that commonly affect this area and are found to occur most frequently in herds affected with laminitis.

The Hardship Groove The term 'hardship groove' is frequently used by cattlemen to describe a shallow groove that may be found running around the hoof wall parallel to the coronary band. This hardship groove, as the name implies, records an event that seriously stressed the animal. In adult cattle, acute mastitis, a septic uterus or any serious disease can cause a temporary reduction in horn production and the tell tale hardship groove being formed. The groove is formed at the coronary band and does not become obvious until the claw has grown out a little. The hoof wall grows down from the coronary band at the rate of a approximately 2 1/2 inches each year (0.6 cm/month). By measuring the distance from the coronary band to the hardship groove in centimetres and dividing by 0.5 (0.5 in summer and 0.6 in winter) it is possible to calculate the approximate time at which an insult occurred.

A hardship groove is produced when beef calves are weaned. As the groove grows out it is usually noticeable that there is a difference in the appearance of the horn that was produced before weaning from that which was produced after weaning. That is to say the horn furthest away from the groove was produced prior to weaning and that closest to the coronet was produced most recently.

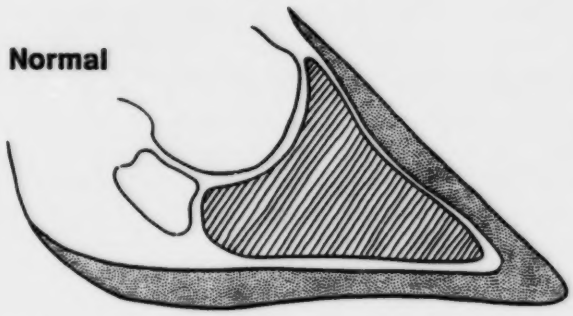
The quality and characteristics of the pre-weaning horn tells something about the management of the calf before it was weaned. If the horn in this area is rough or ridged it is often useful to enquire about the pre-weaning management. The mother may have been a poor milker for example, she might have had only three functional quarters or she could have been a heifer. If the horn between the groove and the coronary band is of poorer quality compared with the pre-weaning horn then this indicates that the animal did not adapt very well to the post weaning management or feeding program.

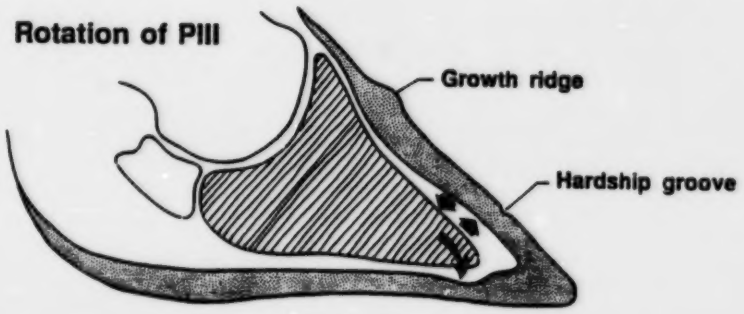


Congestion of the Blood Vessels of the Corium Sometimes at livestock shows one may observe that the horn at the toe appears to have a pink tinge. This is only noticeable in animals with claw horn that is very light in colour. This pinkness or congestion can be seen in some animals that have been heavily fed for about two weeks. If the heavy feeding were to continue the animal will either develop laminitis or it may adjust to the ration.

Pinkness of the skin above the coronary band of the heel and of the dew claws can be an indication that a dairy cow is having its concentrate ration increased too rapidly. This reaction is extremely variable between individual animals. However, when this phenomenon is observed in several animals in the same herd it is useful to investigate the nutritional background of the group. The pinkness fades as the animal adjusts to the ration but if this is a constant feature in a herd the indicators are that the animals are being pushed too hard.

Rotation of the TOE BONE (Distal Phalanx)





During the routine examination of the claws of feedlot steers, it has been found that in some cases the tip of the distal phalanx (toe bone) is pressing down on the corium. A shallow depression is formed on the inside surface of the sole. The distal phalanx has rotated downwards in a similar manner to that observed in the horse. When this occurs in horses permanent irreversible damage has taken place. In all of the cases of rotation that we have observed, there has been a ridge on the outside of the claw wall running parallel to coronary band. Although the cause of rotation is not known, we have only observed it in animals that were introduced suddenly to high energy feed after a prolonged period on a diet restricted mainly to forage. Any major change in the feeds going into the rumen will result in altered fermentation patterns and if the change is big enough, ie sudden addition of increased amounts of starch or protein, it takes up to 14 days for the rumen microflora to establish and equilibrium. Ridges running around the claws of young cattle may indicate that serious damage may have occurred inside of the claw.

CONDITIONS THAT ARE COMMONLY ASSOCIATED WITH LAMINITIS

European veterinarians and research workers believe that certain conditions are more commonly encountered in herds where there is a high incidence of laminitis. This observation is rationalized because, it is argued, soft, poor quality horn reulting from a laminitic episode is vulnerable to wear, damage and infection.

Stable Foot Rot (Interdigital Dermatitis) It is a strongly held belief in Holland that stable foot rot is more commonly encountered in herds with a high incidence of laminitis.

It is very important that this condition should not be confused in any way with FOOT ROT (see page 26). Both diseases are caused by bacteria but the organisms are very different. Animals affected with foot rot are in great pain and the foot is swollen. Stable foot rot does not cause pain or swelling just a mild irritation between the claws. The cows 'paddle', that is, they shuffle their weight from one foot to another. The skin just above the cleft may appear puffy, but not inflamed, and a dark crust or scab may form. As the disease progresses skin is lost from between the heels and the animal stands camped back. There will be no visible inflammation, no rise in temperature and milk yield is not affected.

Why then, is interdigital dermatitis or stable foot rot important at all? This condition is rarely a problem during the summer months. The infection starts to build up when cattle are yarded in wet mucky conditions. In some dairy herds as much as sixty percent of the animals can be affected by the time that the incidence reaches its peak in March. A similar percentage of steers in a feedlot can be affected. By March, the infection can have invaded the soft horn of the heel and caused considerable tissue erosion. Chemical agents in slurry will irritate the exposed tissues at which point an animal can become lame. All too frequently, the sore in the heel is considerd to be the cause of the problem and the existence of underlying interdigital dermatitis and laminitis go on unsuspected.

The ravages of stable foot rot are best controlled by using a foot bath. Usually this is only a practical procedure with dairy cattle. If a foot bath is to be constructed of concrete, it should be located at a point after the cows leave the dairy parlour not before. When formalin is used before the cows enter a milking parlour, there is a considerable risk that the milk will be tainted. Foot bathing is not needed throughout the year and for small herds (less than 30 head) a removable fibreglass foot bath works extremely well. Bathing is probably most useful if started in October. To commence treatment in the new year may be too late

because by this time stable foot rot is likely to have reached an advanced stage. This is a case of prevention being much better than the treatment.

Copper Sulfate or Zinc Sulfate mixed at the rate of 5% by weight makes an effective foot bath. However, it must be realized that these chemicals act by reacting with protein. They can combine with the protein in bacteria and neutralize them or with the protein in horn to harden it. Also these chemicals can combine with the protein in manure. If the bath water becomes rapidly contaminated with manure the foot bath will cease to be effective. Therefore, for large herds, formalin is often used because it remains effective for a longer period of time than the sulfates. Formalin is, however, irritant. Mild baths of formalin would be mixed at the rate of 2% and such a concentration would be acceptable if there is little evidence of stable foot rot. By February and March, the disease may become a problem requiring a concentration of over 5%. Bear in mind that higher concentrations of formalin are irritant and can cause soreness. Hair standing on end around the coronary band is a sure sign that the skin is being irritated and that bathing should cease.

Heel Erosion As has been pointed out earlier in this paper, heel erosion can be an advanced complication of stable foot rot. It is now believed by some workers that laminitis can also be a predisposing cause of heel erosion. If this is the case the end result is exactly similar in appearance.

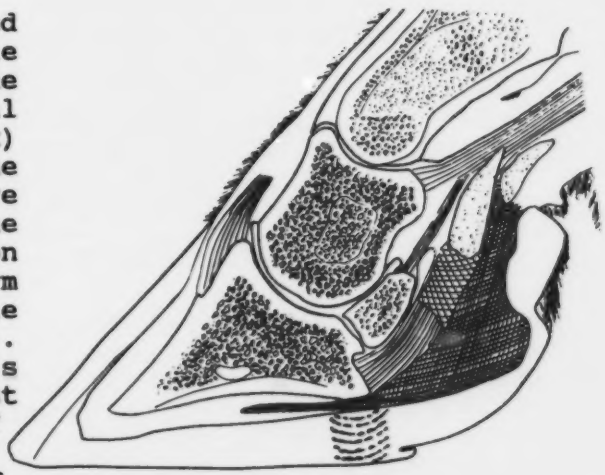
Laminitis causes layers of hemorrhages to develop in the horn of the sole. These layers end at the heel as tiny grooves. It is thought that bacteria, that are commonly found in manure, invade these grooves and flourish on the traces of blood that may be there. Although this is only a theory, researchers in the field believe that heel erosion occurs most frequently in animals affected with laminitis.

Whatever the cause, the erosions start as pits or craters and/or fine dark grooves in the heel horn. They deepen until most of the horn has been destroyed. Typically,

Relationship between haemorrhagic strata in the sole and erosion of the bulb. a Eroded heel, b Fissures in the bulb, c A layer of haemorrhage seen through the horn of the sole, d Deep colour of the white line, e Coronary cushion, f Haemorrhagic strata, g Erosive fissures in the bulb, h Digital cushion.

the erosion may be seen as a deep black diagonal groove at the junction between the heel and the sole. The loss of heel horn that results from erosion severely hampers the shock absorption function of the heel and places strain on the remaining portions of the sole. The disease is common and difficult if not impossible to control. Intensive management systems, poor hygiene and heavy feeding are all likely to be implicated.

Sole Ulcers Sole ulcers nearly always occur in the sole of the outside claw of the hind feet. In appearance the ulcer is likely to resemble a red button, about the size of a nickel, protruding through the middle of sole at a point close to the heel. This a very common condition and it would not be unusual to encounter a herd of dairy cows in which over 40% of the cows were affected. Many workers believe that if this condition occurs in over 10% of the cows in a herd during any given year that the underlying cause is laminitis.



Sole ulcers are caused when an abnormally flexible sole presses upwards onto the downward directed spike (caudal process of the distal phalanx) at the back of the toe bone (distal phalanx). The pressure damages blood vessels in the region which allows granulation tissue (proud flesh) to form instead of horn. The sole eventually perforates. Although laminitis is considered to be the most important and common cause of sole ulcers, there are other causes. Excessive trimming of the sole in the heel region makes the sole flexible. Walking long distances over abrasive surfaces will cause the sole to wear and become flexible.

The best treatment for a sole ulcer is to apply a 'lift' (wooden or rubber shoe) to the sound claw in order to prevent the damaged area bearing weight on the ground. Some types of shoes such as a properly applied 'Shoof' are helpful. A claw affected with a sole ulcer should not be bandaged because this usually increases rather than decreases mechanical pressure. Ulcers should not be 'cut out' but the rotten horn around the lesion should be pared away. Do not apply any chemical agents that would burn the ulcer, healing will be retarded.

Preventing or controlling ulcers must start with an evaluation of all of the factors that cause laminitis. Once the causal factors have been identified and dealt with, the herd will undoubtedly benefit from the effects of a weekly formalin foot bath.The rate of wear of the sole may be reduced by painting the sole with hoof bond.

White Line Disease The white line is that region of the sole of the claw that joins the sole to the wall. The horn in this region is slightly softer than elsewhere on the sole. The white line merges into the heel region and it is in this region that separation of the sole from the wall is prone to occur. It should also be noted that the sole/heel region is the part of the claw that hits the ground first in each step. Doubtless, the cause of splitting of the white line is mostly mechanical.

Animals with laminitis have softer horn than normal and consequently most workers have come to the conclusion that laminitis can be a major predisposing cause of white line disease.

White line disease occurs when the split becomes infected and an abscess develops either under the sole or deep in the heel. Early cases of white line disease can be corrected by cutting out the infection with a sharp hoof knife. In the more advance stage, when an abscess is present in the heel, surgical treatment by a veterinarian is needed.

The problem with this type of heel abscess is that it is frequently misdiagnosed as foot rot. When this happens a producer may continue treatment with antibiotics for too long a period with the result that serious complications can occur.

*When foot rot is treated with **ADEQUATE DOSES OF ANTIBIOTICS** (see pages 25 & 26) the lameness should show significant improvement within 48 hours. If this does not occur, either the diagnosis is incorrect or the level of medication is inadequate.*

In true foot rot, both claws are swollen and the claws tend to separate. The presence of a heel abscess will cause swelling in only one heel and no amount of treatment with antibiotics will bring about a cure. Without surgery the infection will destroy the joint and probably cripple the animal for life.

Double Sole A double sole is produced after there has been a sudden and complete stop in the production of claw horn followed by a resumption of normal growth. The condition usually causes no alteration in gait and is often only noticed during hoof trimming.

When this condition is encountered, the sole should be removed

and the wall left in place. When exposed, the new sole is very delicate and prone to mechanical damage. The best way of preventing this from occurring is to house the animal in a well bedded box stall for a few days. As the new horn dries it become harder and more resistant to further damage.

The cause of the problem is likely to be similar to the insult that leads to laminitis. Adult cows, kept on a maintenance ration during the dry period may develop double soles if introduced to an ad lib high production ration without an appropriate acclimatization period.

Hemorrhages in the Sole Hemorrhages of the sole are the characteristic clinical sign of a laminitic insult that occurred some time previously (often months elapse before the phenomenon is observed). This sign is a historic record and not an indication of the status of the animal at the time of the examination. The rate of horn growth varies according to the season and to the rate of wear. As a rule of thumb, hemorrhages take from two to three months to appear at the surface of the sole.

The hemorrhages can take the form of a slight pink tinge, a pronounced brush stroke of red coloration or a dark solid red stain. It is unlikely that thumb pressure will cause pain and usually it will be possible to pare away the affected layer of horn to reveal normal horn beneath. By comparison, bruising of the sole occurs when the sole has been worn very thin and trauma has caused the rupture of a blood vessel. In these cases the horn of the sole depresses on pressure and causes the animal pain. The color of the blood beneath the horn is usually dark blue or black.

Hemorrhages may be worse in heavy animals, animals with straight hind limbs, animals walking on concrete or in claws excessively softened by continual immersion in slurry.

Hemorrhages in the White Line Hemorrhages of the white line are also considered to be associated with laminitis. The relevance (in time) to the laminitic insult is not known. The significance of hemorrhages in the white line of the toe is also unknown. In some cases the hemorrhage can be so severe in the toe region that the white line appears to disintegrate and a so called, 'toe ulcer' develops. If these ulcers are neglected very severe infections can result some of which require amputation of the digit.

INVESTIGATING A LAMENESS PROBLEM IN A DAIRY HERD

Economic Considerations After mastitis and reproductive problems, lameness is considered to be the next most economically important condition affecting high producing dairy herds. In certain areas of the United Kingdom, the veterinarians state that lameness can be their biggest **problem**. In other words, they know how to handle mastitis and reproductive problems but when it comes to herd lameness problems there are no accepted methods for investigating them.

Economic losses from lameness can be considerable. The pain associated with lameness often causes a sudden drop in milk yield from which a cow may not fully recover. It has been estimated that a cow that becomes severely lame as she reaches peak lactation may loose as much as 20% of the total production for that lactation. Culling and amputation of the digit add to the economic losses and this quite apart from the veterinary fees involved in treatment. Lameness has been estimated to cost the dairy producers of Quebec 10 million dollars annually. In the UK the loss is considered to be £2,000 ($,4,000 CAN) for each one hundred dairy cows **on average**.

Is Lameness Really a Problem?

Before embarking on the detailed investigation of the cause of lameness in a herd it is necessary, first, to establish whether or not the occurrence of lameness has reached a level that is unusual.

When one cow in ten becomes lame in any period of twelve months for reasons other than foot rot, claw deformity or accident it can be said that a lameness problem exists.

Is the problem associated with laminitis?

Researchers have determined that certain claw diseases are commonly associated with laminitis, therefore animal health records should be kept that would identify the following lesions.

L1	Sole ulcer	L2	Heel erosion
L3	White line disease	L4	Interdigital dermatitis
L5	Double sole	L6	Chronic Laminitis

The same diagnosis for the same claw should be recorded only once during a six month period. It is important to avoid exaggerating an outbreak of lameness by recording revisits or re-treatment to the same animal for exactly the same problem. Furthermore, it is important to differentiate lesions that are actually causing lameness from those discovered during the course

of routine hoof trimming. The reason for this is that fifty percent of a herd could be affected with interdigital dermatitis or heel erosion but the animals lame from these condition could be less than 10%

Sole ulcers are particularly indicative of a laminitis incident. For this reason it is recommended that when the occurrence of ulcers reaches an unacceptable level a herd investigation for laminitis should be accelerated.

When does the occurrence of ulcers reach an unacceptable level?

As a rule of thumb if 2.5% of the animals in a herd develop ulcers in a three month period or 5% in six months, a problem should be considered to exist.

If the lameness problem does not appear to be associated with the lesion designated above L1 to L6 causes other than laminitis should be considered.

What Age Group of Animals is Mainly Affected?

A. Heifers.

In recent years veterinarians in practice as well as dairy producers have become aware that heifers in some herds are starting their first lactation with claws in extremely poor shape. This does not mean necessarily that the heifers will become lame during the first lactation but that lesions of the sole, white line and heel are present. These lesions will not be seen unless a special examination is carried out.

Examination of the soles of the claws should be undertaken in problem herds within two weeks of each heifer calving. The presence of hemorrhages in the sole or white line is a reasonably sure sign that laminitis is present and that the cause is related in some way to pre-calving heifer management.

If more than one in ten heifers have sole hemorrhages, a more complete evaluation of the status of the heifers claws should be undertaken. The claws should be examined two, four and even six months prior to calving in order to find out the point in time at which the problem first appears. It should be remembered that the insult, whatever it may have been, is likely to have occurred at least two months before the hemorrhage becomes apparent at the surface of the sole.

In order to place the problem in proper context, the following are some of the factors that would be investigated in respect to the occurrence of laminitis in heifers during the peripartum period:

1. Average daily weight gain The average daily weight recommended for dairy heifers between the ages of 3 and 20 months is 650 grammes. Our investigations demonstrated that heifers gaining weight at more than 800 grammes per day are likely to have sole hemorrhages which is a sign that is very characteristic of early laminitis.

Care should be taken in adopting the common recommendation that producers should aim to calve dairy heifers for the first time as close to 24 months of age as possible. The proponents of this argument can demonstrate that on average heifers will produce a greater volume of milk between 24 and 60 months than they could between 28 and 60 months. This is doubtless correct in terms of simple arithmetic but does not address the mathematics of the animals functional life.

Age is not the only criteria for the time at which an animal should be bred. It is recommended that an animal (eg Holstein) should reach a certain withers height (130 cm) and weight (366 kg) in arriving at the criteria for an appropriate breeding age (14 months). Accelarated growth rates can be achieved through feeding but not without risk. Sejrsen and associate workers found that:

'growth hormone was elevated for prepubital heifers on restricted feed whereas there was no difference from feeding for postpubertal heifers. The development of the milk producing tissues was positively correlated to the level of growth hormones in the blood and negatively correlated to the deposition of fat in the udder. They conclude that the negative influence of excess feeding on udder development of prepubetal heifers may be associated with a decrease concentration of growth hormones.'

Our research with beef steers demonstrated conclusively that serious damage to the claws occurs in calves that are fed intensively when they are less than 13 months of age. Similar changes were not observed in older animals subjected to the same treatment. Danish workers (Mortnesen and Hesselholt) found that feeding heifers high levels of energy leads to a higher incidence of laminitis and that some heifers did not not achieve their full milking potential.

Finally there is no evidence to demonstrate whether early calving affects longevity. At a dairy conference in Banff several years ago, one of the speakers stated that the average productive life of dairy cattle in Alberta was 24 months. This makes the average life span considerably less than 60 months. There are many

reasons why dairy cattle are culled but feet and leg problems may be a more important factor than is generally realized.

2. Nutrition Nutrition has an important influence on the incidence of laminitis. Nutritional mismanagement alone can cause laminitis. However, with young cattle the problem is likely to be a combination of factors that make the animals more susceptible to a nutritional insult. The one thing that is very clear about nutrition and laminitis is that there are very few known facts that apply in every circumstance. Under apparently identical nutritional and management conditions sometimes laminitis will occur and sometimes it will not. Some researchers believe that laminitis is a 'multifactorial disease'. The factors can be defined but few can be priorized.

A. Metabolizable Energy

There seems to be overwhelming evidence that feeding a ration with a high level (over 70% TDN) of energy (carbohydrate, grain) can produce acidosis of the rumen which may result in laminitis. It is not only a question of the percentage of energy but also the actual quantity fed. Feeding a high energy ration ad libitum is more dangerous to the animal than feeding to yield. Sudden introduction of high energy feed to the diet is particularly troublesome. A dairy cow should have the daily ration of concentrate increased at the rate of no more than 1 Kg per day until the total consumption has reach 8Kg per day. Above 8 Kg per day, the daily increase in the ration should not exceed 0.5 Kg.

B. Fibre

Forage must compose at least 30% of the dry matter of the diet. The quality of the fibre in a diet is extremely important. From the perspective of rumen health the fibre in meadow hay and alfalfa is reportedly the best. Alfalfa in particular is said to have an alkalinizing effect on the rumen environment.

Changes in the quality of the ration can also be a problem. For example a sudden change from inferior pasture to one that has been heavily fertilized and is growing rapidly can cause a problem. Heavy rain during warm periods of the year may have a similar effect. The fibre in young fast growing grass may prove to be of inadequate quality in such countries as Holland and New Zealand. Similar growing condition do not occur very frequently in Canada therefore the risk may not be as great.

Many producers chop the forage very finely to make it easier to blow up into a tower silo. This significantly reduces the amount of 'effective fibre' in the silage which reduces the amount of saliva entering the rumen. An equal amount of hay or finely cut silage will have different buffering effects in the rumen for the same level of concentration in the diet.

C. Buffering

The addition of 1 % sodium bicarbonate to a concentrate ration is reported to be beneficial in reducing the incidence or severity of laminitis in a herd. Levels above 1% reduces the palatablity of the ration. The provision of rock salt is said to stimulate salivation. Saliva is another alkalinizing agent for the rumen.

D. Lead Feeding (Steaming up)

There is a range of differing opinions regarding the dangers of lead feeding. In Holland the practice is discouraged. However, in that country there is an abundance of grass, therefore, over feeding could be easier than it would be in Canada. Whether or not lead feeding should be practised might depend on the body condition when the animal is dried off. Such factors as udder edema and blood in the milk might be indicative of excessive lead feeding.

E. Frequency of Feeding

High producing cows should be offered the concentrate ration at frequent intervals. Sudden intake of large quantities of concentrate can cause a series of short term insults to which the rumen can not adjust. Computerized feeding has an advantage but only provided that computer and the producer entering data are functioning correctly.

F. Silage

There is a widespread but completely unsubstantiated belief amongst veterinarians that feeding silage can be associated with a high incidence of lameness. If a pasture has been heavily manured prior to cutting the resulting silage may contain dangerous accumulations of nitrate/nitrate. Nitrate/nitrite poisoning will affect blood vessels in a manner similar to that seen in laminitis.

Sometimes producers fail to analyze the silage at regular intervals with the result that unknown variations in protein levels occur. Incidents of protein excess can occur. Silage can be of much higher quality than hay off the same field due to harvesting methods. Weather can also be a factor in delaying haying which will reduce quality.

In our work we were unable to demonstrate that the high levels (19%) of protein in a ration caused a problem. This does not preclude that allergic reactions could occur or that alterations in the quality of protein could have detrimental effects.

There is insufficient evidence to implicate silage as a

negative influence but care in its use is recommended.

3. Exercise A sudden reduction in exercise can cause a critical reduction in the flow of blood through the claws. Often reduced exercise will occur simultaneously with dietary changes. That is to say an animal may be introduced to a production ration at the same time that exercise is reduced and exposure to concrete or slats occurs. An arrangement to stagger the variations in management may be helpful.

4. Confrontation (Competitive social interaction) The removal of a heifer from its peer group and its introduction to a group of dry cows, some of which are dominant, can have a deleterious effect particularly in the case of submissive heifers. It has been shown that under adverse circumstances heifers will be kept continuously on the move by dominant cows and will not have adequate rest. Under these circumstances it is claimed that ulcers occur more frequently. Other workers have reported that heifers may slip, fall and injure themselves during 'contact yielding' when confronted by dominant animals in a confined space.

Every effort should be made to avoid introducing single heifers to a group of mature cows. Ideally three or more heifers should be introduced at the same time. Remember that the heifers have to learn to adapt to the new environment. For example, they may require training to use cubicles. This may be done by haltering an animal and tying it in a cubicle.

Confrontation can become a problem if the size of the herd has increased without the owner realizing that the space available is too constricted. The space allowed per animal for walking should not fall below 3.3 m^2. It should be noted that no benefit is derived from providing space in excess of 4.5 m^2. Passageways should not be less than 2 m wide and should be at least 4 m wide adjacent to feeding bunks.

B. Mature Cows

In a herd where the incidence of lameness is high, the animals will be affected most frequently between 60 and 75 days after calving. In order to confirm that laminitis is the underlying cause of the problem, the sole of the hind claws of every cow should be examined within two weeks of calving. Hemorrhages may be present, but if this is not the case, the claws should be re-examined every three weeks. Bearing in mind the delay before the hemorrhage appears on the surface of the horn, it may be possible to identify when the insult is occurring and to associate the insult with a management factor.

It is worthy of noting that the horn of the claws of mature cows does not have the same capacity for recovery as is the case

with heifers. Long standing and partially recovered lesions are likely to be common.

A significant occurrence of lameness in the mature animals of a herd is likely to signify a long standing problem or one that has been building up over time. Although the major cause of a laminitis problem in mature dairy cows will be nutritional, other factors can be considered:

1. Genetic Body weight, angulation of the hock and stifle and the size of the bearing surface of the claws are all inter-related. Animals with small claws and/or straight legs should never be allowed to become over weight. Straight legs and/or small claws should be selected against. Considering white socks to be a desirable characteristic of Holsteins is unwise because invariably a white coronary band will produce claws predominantly light in colour. Light claw horn is softer and more prone to injury and infection than is dark claw horn.

2 Hygiene Claws that are continuously exposed to moisture have a high water content and are softer than dry claws. Urine and slurry have a deleterious effect on the claw horn. Apart from the irritant and macerating effect of slurry, the bacterial content of the material is likely to be high. Heel erosion can become rampant when conditions of hygiene are poor. Apart from improving sanitation, the introduction of a foot bath would be a proper procedure.

DISEASES THAT ARE CONSIDERED TO BE UNASSOCIATED WITH LAMINITIS

Sand Cracks Sand cracks or vertical fissures are exceptionally common in beef cattle on the Canadian prairies. Cracks in the claws of the front feet are more commonly seen than cracks affecting the hind feet. This may be due to the fact that the pasterns of the front limb are more upright than is the case in the hind feet. Brittle horn splits more readily than horn that has an adequate water content. Loss of the external layer of the claw wall is a major factor in the development of a sand crack.

It is widely believed amongst producers that the frequent occurrence of sandcracks is likely to be due to a deficiency of trace elements such as zinc, copper or selenium. This may or may not be the case. Scientific evidence supporting the theory is questionable. When trace element supplementation is undertaken, extreme care must be taken not to create a trace element imbalance by over supplementation. If trace elements are to be given they should, whenever possible, be offered in the chelated form. Methionine is believed to be an important amino acid needed by the horn producing cells (strata germinativum and spinosum). The use

of zinc methionate (*ZINPRO*) is widely regarded as being superior to zinc oxide as a supplement.

The vast majority of sandcracks do not cause lameness. They are unsightly but not dangerous. The vertical fissures that cause problems are small and confined to the coronary band. In this location they can be obscured by mud and therefore difficult to detect. In an incident of lameness in which the seat of lameness can not be identified it is essential to press all around the coronary band with the fingers If a tiny sand crack is detected the area should be cleansed and the sandcrack opened gently with a knife. A drop of intermammary antibiotic should be squeezed into the opening before the area is protected by an adhesive bandage applied around the coronary band.

Large fissures rarely cause lameness however they are unsightly. Time consuming cosmetic treatment is possible with the use of modern day acrylics. This technique first requires that the portion of the crack closest to the coronary band is sealed by carefully melting the horn with a hot dehorning iron. The remainder of the crack must then be made smooth by removing rough edges and debris. Next, holes should be drilled on either side of the fissure to receive staples which will prevent the crack from opening during weight bearing. The fissure is then filled with an acrylic which should also cover the staples in order to hold them in place. The crack is thus completely immobilized and will require almost twelve months to grow out.

The incidence of sand cracks can be reduced by regularly oiling the claws. This method is usually not practical. A useful alternative is to apply a water proofing product such as hoof bond or a good quality domestic varnish.

Thimbles A thimble is an extremely severe hardship groove. The horn of the wall ceases growing for a period of time and a crack therefore exists running parallel to the coronary band. When this crack grows out, the animal has the equivalent of a hang nail on each of the eight claws. This condition is therefore extremely painful.

This disease is not likely to be related to laminitis. Most cases can be associated with an acute disease such as Coliform mastitis, a septic uterus, severe pneumonia and certain severe viral diseases.

The removal of the thimbles should not be attempted by a producer. The procedure is extremely painful for the animal and can be very dangerous for the operator unless proper restraint and sedation are used.

Foot Rot

Foot rot is probably the most commonly encountered disease of the digits of cattle. Most producers diagnose and treat this condition themselves. Unfortunately, many assume that all lameness is caused by foot rot, fail to examine the foot closely and use antimicrobials to routinely treat all cases of lameness.

Foot rot causes cattle to become lame quite rapidly. The pain is cause by the inflammation and swelling of the foot that is typical of the disease. Left untreated the skin between the claws rots away and can open the way for severe complications. Typically the animals body temperature will rise and a milking cow will have a dramatic drop in milk yield. Beef cattle will loose condtion rapidly.

Penicillin is commonly used to treat foot rot. There should be a definite improvement within 24 hours if the animal is treated in the early stages of the disease. This provided that the dosage of penicillin is adequate. It is important to be familiar with the dosage. Procaine Penicillin G is usually dispensed in bottle containing either 200,000 or 300,000 International Units (IU) per millilitre (Ml). The dosage recommended on the bottle varies from 6,000 to 18,000 IU per Kg of body weight. The dose on the bottle will usually be expressed as so many Ml per Kg. This system is simple for the farmer to use but may be lead to under dosing unless it is fully understood how many internationa units are being used. In recent years there have been many complaints that the label dosage is inadequate. Concequent, research has revealed that a more appropriate dosage may be from 20,000 to 50,000 IU per Kg. Using Penicillin at this level will extend the withdrawl time for the milk or meat. It may be more economic to use Oxytetracycline at a dose rate of 10 mg per Kg. However, dosage and preferred product should be discussed with the veterinarian. Antibiotics must be given intramuscularly. It should also be born in mind that some animals may be allergic to penicillin. Therefore, if larger than label doses are to be give it will be wise to split the dose in two and administer the second dose six hours after the first.

There is no sure and simple method of preventing foot rot. Vaccines are available commercially but their efficacy has not been the subject of controlled trials. Furthmore, the immunity that results from vaccination is said to last only a few months. The following are some ideas on the subject of control:

1. Animals affected with foot rot will be discharging organisms into the environment in large quantities. Environmental contamination can be minimized by isolating a lame animal immediately the lameness is noted. Early treatment with adequate doses of an antibiotic will reduce the period of isolation.

2. A high incidence of foot rot means that the environment has become contaminated with the causal organisms. The organsims involved are believed to be capable of surviving for long periods outside of living tissues.

a) A contaminated feedlot should be cleaned and, if possible, rested for a few weeks. It has been reported that the application of paraformaldehyde at the rate of ½ oz per square yard (25 lbs for a 40 x 80 ft pen) will reduce the number of organisms (that cause foot rot) very significantly.

b) It is unlikely that a contaminated pasture can freed completely from the organisms that cause foot rot. A pasture that can be rested over winter and not used until after a hay or silage crop has been removed should be relatively clean. However, it must be pointed out that the causal organism can and does live and possibly proliferate in the animals intestines. Therefore, slurry may be heavily contaminated and should be spread on arable rather than pasture land if there is a serious, pasture related, outbreak of foot rot.

3. Medication of feed has been recommended by some research workers.

Sulfabromezathine at the rate of 30g perKg of grain given for two consecutive days to calves weighing 150 kg has been reported to have given excellent results.

Ethylenediamine dihydroiodide (EDDI) may be administered at the rate of 50 - 200 mg per animal per day as a feed supplement for two weeks. The results obtained from this product can be good but are variable. Logically the results will depend on the concentration of the organisms to which the animals are subjected. Ideally organic iodides should be used on animals such as dry cows or steers that are the first occupants of rested pasture or a cleansed feedlot.

Medicated feeds may produce their effect by eliminating the organism from the tissues of the animal. There is also the possibility that these products may also reduce the number of organisms in the gut. If this is the case the risk of contaminating the environment would be reduced.

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Presentation to the
1992 BEEF CATTLE SEMINAR
Agricultural Extension Centre
January 21, 1992

"ANIMAL RIGHTS:" IMPACT ON YOUR BUSINESS

Activists are targeting consumers and pressing for regulations which could have a significant impact on agriculture, at a time when the public is concerned about food quality, animal welfare, and environmental issues. This presentation will explain exactly how "animal-rights" campaigns work and analyse the threat to your business - while providing practical examples of positive actions farmers can (and are) taking to protect their livelihoods, as individuals and through their associations.

ABOUT ALAN HERSCOVICI...

Alan Herscovici is the author of the award-winning expose -- SECOND NATURE: THE ANIMAL-RIGHTS CONTROVERSY (Stoddart, 1991.) A writer trained as an economist and political scientist, he has led communications and strategy workshops for scientists, educators and industries based on the responsible use of animals. Alan Herscovici wrote "Food For Thought," a public-information brochure recently published by the Ontario Farm Animal Council (OFAC), and is now completing a "teachers guide" to sensitive issues in agriculture. He was a consultant for the Royal Commission on Sealing, and is Chairman of a national committee developing adjustment strategies for the Canadian Fur Industry. Alan Herscovici is a member of the Centre for Investigative Journalism, the Federation Professionelle des Journalistes du Quebec, and the Canadian Science Writers Association.

"ANIMAL ACTIVISTS -- IMPACT ON YOUR BUSINESS...
... AND WHAT YOU CAN DO ABOUT IT."

Notes for a Workshop Presentation
to the 1992 Beef Cattle Seminar
Agricultural Extension Centre, Brandon, Manitoba
January 21, 1992

by ALAN HERSCOVICI

Should stockmen worry about "animal-rights" activists? Judge for yourself...

Activists have three good reasons for launching a major assault on farmers: (1) killing and eating animals is completely contrary to the animal-rights philosophy; (2) few city people today know much about agriculture; (3) there's money to be made in these campaigns -- a lot of money.

Let's look briefly at why and how activists attack agriculture. Then we'll consider what you might want to do about it.

"ANIMAL RIGHTS" -- the idea

In a nutshell, animal-rights activists question our "right" to use animals to satisfy human needs.

This is not the same as "animal-welfare:" i.e. our responsibility to protect the animals we use from unnecessary suffering. The new "animal-rights" ethic opposes any use of animals.

This doctrine was neatly summed up by Ingrid Newkirk, president of the People for the Ethical Treatment of Animals (PETA):

> "Animal liberationists do not separate out the human animal, so there is no rational basis for saying that a human being has special rights. A rat is a pig is a dog is a boy. They're all mammals." (Toronto Star, 28 Dec. 1986.)

The new activists compare their philosophy to important human rights movements:

> "Racism," they point out, is arbitrary discrimination against certain groups of people, for no reason other than that they belong to a different race than we do.

> "Sexism" penalizes half the population, because of their sex. Increasingly, our society rejects such discrimination.

But, say the activists, most of us are still blinded by an even more widespread form of arbitrary discrimination: "Speciesism."

We treat animals in ways we wouldn't treat other human beings (eat them, make clothes from their hides, etc.) -- for no better reason than that they belong to a different species than us!

Sounds kooky? Maybe. But PETA now claims more than 300,000 members, 60 full-time employees and an annual budget of over US$ 6 million! (New York Times Magazine, 26 November 1989.) And PETA is just one of literally hundreds of animal-rights groups springing up across North America. Think about it...

MONEY

The animal-rights idea isn't new. "Ethical vegetarians" have been around for a long time. The ancient Greek philosopher Pythagorus bought pigeons in the market -- to set them free. So did Leonardo Da Vinci.

What's different today is the impact that even a small group of activists can have on the rest of the population -- and that's explained largely by technology.

Activists have learned to skillfully use television, and other communications media, to promote their messages. Think of the image of the "baby seal."

They've learned that the media can't resist confrontation. Thus, the noisy protest demonstrations, the sensationalist newspaper ads, television "debates," and ALF break-ins to "liberate" animals in research laboratories and on mink farms...

Even more important, the new activists have learned to use another form of technology: modern market research and computer-driven direct-mail fund-raising.

As Stephen Best, of the International Wildlife Coalition has bluntly put it:

> Today, the animal rights movement, indeed the entire environmental/ecology movement, is in every sense of the word an industry in its own right; no less than any other. (Presentation to the Alberta Society of Professional Biologists, May 1986.)

There's big money today in "animal issues." The Humane Society of the United States collects more than US$ 10 million annually in donations from the public. The Toronto Humane Society reported assets of over $12 million, when taken over by radicals, a few years ago.

Campaigning against seal hunting or medical research or animal agriculture is no longer a cost. for such groups. This is how they make their money.

In other words, activists don't have to convince everyone that they are right. They need only convince enough people, to bring in enough money, to pay salaries, expenses, and launch new campaigns.

That's why animal-rights campaigning will be a fact of life for producers, for some time to come.

ANIMAL RIGHTS AND AGRICULTURE

To date, the largest animal campaigns have targeted whale and seal hunting, medical research and product-safety testing, and recently, the fur trade.

But, many groups are now testing more aggressive campaigns against agriculture:

* The Humane Society of the United States condemns bacon and eggs as "The Breakfast of Cruelty."

* Anti-agriculture bills have been introduced in many European countries and U.S. states. Most have, so far, been defeated, but the pressure mounts. (Legislators report that they now receive more mail on animal issues than almost any other subject.)

* Henry Spira, (of Animal Rights International), who led U.S. campaigns against the use of animals in product-safety testing in the early 1980's, is now turning his attention to farming. "My dream is that people will come to view eating an animal as cannibalism," says Spira. (New York Times Magazine, 26 November 1989.)

* John Robbins (of the Baskin & Robbins ice cream family) recently published Diet for a New America -- a sweeping condemnation of meat-eating and animal agriculture.

* PETA ran ads in the U.S. this summer, comparing meat producers to mass murderers.

* And, of course, there was k.d. lang...

Agriculture is now accused of contributing to everything from human cancer and other diseases, to third-world hunger, to soil erosion and our current ecological crisis.

STRATEGY

As in previous animal-rights campaigns, the strategy is "divide & conquer." Although the activists oppose any use of animals, they seek out "soft targets:" veal production, fur farms, battery cages for chickens, etc.

They also do their best to blur their campaigns with major topics of public concern: worries about pesticides and other chemicals in food, the health risks of excessive meat consumption, and the ecological impact of modern intensive farming...

They poke and prod, feeling for soft spots. But they are not necessarily looking for a knock-out blow or a quick victory. They can take their time -- so long as fund-raising brings in enough money to pay salaries and expenses, and continued growth.

Remember: from the first protests in 1964, to the EEC ban in 1983, it took 20 years to destroy European markets for seal pelts. But, in that time, the animal-rights movement grew from a raggedy band of "kooky" activists, to a powerful, international "Protest Industry."

WHAT CAN PRODUCERS DO?

1) Don't bury your heads in the sand. Recent history shows that, unchallenged, the activists can have a major impact. You know that many of their claims are "kooky." The public doesn't!

2) Know your enemy. Learn about animal rights: read Peter Singer's Animal Liberation, and Tom Regan's The Case for Animal Rights. Subscribe to The Animal's Agenda, the major U.S. animal-rights magazine. (Take them from the library, if you don't want to pay them royalties, but read them!)

3) Explain the difference between "animal welfare" and "animal rights." Most people support animal-welfare: very few would accept the extreme animal-rights ideology. Activists like to blur the distinction. Don't let them.

4) Be sure your house is in order. Can improvements be made? As media attention increases, you will want to show that your industry upholds the highest possible standards of animal care.

5) Support the moderates. Animal-welfare groups are under increasing pressure from radicals. Join your local humane society and support principles of responsible animal use. Otherwise, you'll have no one to blame when they turn against you.

6) Educate the public about your industry. If you don't like what the activists are saying about your industry, be sure the media and the public have a chance to hear the other side.

7) Tomorrow's consumers (and voters) are in school. New ways must be found to teach city kids about where their food comes from.

8) Develop "networks" and use them. The activists make good use of volunteer, grassroots networks. But farmers and other primary producers have a far greater potential network. Begin to use it!

9) Support your allies. The activists like to "divide and conquer:" first sealers, then trappers and fur farmers, veal producers, medical researchers, zoo-keepers, hunters and fishermen, native people, etc. Get to know other responsible animal-users -- and learn to work together!

10) Work with your local and regional media. The activists like to "set the agenda;" they exploit the fact the journalists must work to tight deadlines, with little time to research complex stories. Instead of being angry when a bad story appears, take it as a warning that you have not been doing <u>your</u> job. Be sure that journalists know who to contact when trouble arises.

11) Get ready for the long haul. There is no "knock-out" punch; no "magic" solutions. The activists won't "go away." However misguided their efforts, the growth of "animal rights" and other protest movements reflects <u>real</u> concerns in our society -- concerns about "where we're going" and how we'll deal with our environmental crisis.

Producers have a key role to play in all this, and farm women can play an important role -- by communicating more directly with other (urban) women. After all:

* Women are a leading force in most social-action (including animal-rights) groups: they lobby governments; they write letters to politicians and newspapers; they organize community groups.

* Women also buy most of the food in our society.

Interestingly enough, many animal-rights and "deep-ecology" groups now claim to embrace a "women's perspective." They say that "using" animals (in agriculture or from the wild) is an expression of "male dominance" and "exploitation;" that we need to adopt a more "caring" attitude to "Mother Earth."

In general, it is time that we began hearing more from rural people on a whole range of "environmental" issues.

Yes, animal rights is certainly a "threat" to rural cultures. But it also presents a challenge -- and an opportunity.

Like Bob Dylan once sang, "the times are a-changing..." How they will change, however, is up to all of us!

Alan Herscovici is a Montreal author and consultant, specializing in social and environmental issues. To learn more about animal-rights activism, read his book: SECOND NATURE: THE ANIMAL-RIGHTS CONTROVERSY (Stoddart Publishing Co. Ltd., Toronto, 1991.)

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CHANGES TO CANADA'S GRADING SYSTEM

PREPARED BY DENNIS LAYCRAFT, DECEMBER 15TH, 1991

INTRODUCTION

In 1972, Canada implemented its present grading system and became a world leader in this field Eighteen years later, there is a general consensus that the system is now too confining and inflexible to adequately service the needs of the industry. New trends in consumer preferences, niche markets, export opportunities, and value based marketing objectives require changes to our grading standards to keep our industry at the forefront.

Consumer studies indicate serious concerns about product inconsistency - particularly tenderness. Consumer preferences vary with respect to marbling levels. The food service trade is concerned about insufficient access to Canadian beef with marbling.

The Canada/U.S. Trade Agreement has created the opportunity for increased trade in beef products. However our present grading system does not provide them with the flexibility to meet current preferences and to access the premium markets in the U.S. Similar problems exist in accessing Pacific Rim markets.

The system of using back fat thickness as an indicator of meat yield is not very reliable. A new formula using fat thickness and rib eye area - and adjustment by carcass weight - is far more accurate. This change is necessary

to promote enhanced value based marketing in order to continue to improve the genetic base of our herd along with management and marketing practices.

For the commercial cattleman, selling finished cattle on basis of average creates average cattle. Genetically superior cattle presently do not always receive the full benefit of their greater cutablity and meat quality. Producing the best beef cattle in the world will be the key to the long success of the Canadian beef industry.

CHANGES

The proposed changes are based on maintaining those parts of the existing system that the industry feels are working well, addressing the areas of weakness, and better describing the characteristics of the product - or in other words moving to more of a classification system.

The categories of A, B, D, and E grades will remain. The C grade will be eliminated with the top end moving into the A and B grades, and the bottom end falling into the D grade.

Fat and Meat color requirements will remain unchanged.

Minimum marbling will be reintroduced with A grade carcasses requiring at least trace marbling. Carcasses devoid of marbling will fall into the B1 grade (about 1% of our present A grade). Marbling levels will be identified as part of the grade classification.

A new yield formula will be used which more accurately measures the cutability of the carcass and probable meat yield.

A GRADE(S)

1. Marbling - A carcasses will be stamped with the following classification: A (trace), AA (slight), & AAA (small and greater). Devoid carcasses will fall down into the B1 grade.

2. Yield - It was agreed by the packers that price settlement to producers would be made available on the basis of actual yield rounded to the nearest whole number. Each carcass will be tagged with actual yield.

Carcasses will be marked into three yield groupings - A1 (59%+), A2 (53%-58%, and A3 (53%-) which will be rolled on the carcass. The retailers along with the CMC insisted upon this for settlement purposes forward from the packer. It will not be listed on the grading tag.

B GRADE

1. B2 - B4 grades - At the request of the CCA the dark cutters will become B4's and youthful carcasses with yellow fat will become B2's.

2. B Grade Yield Calculation - It was agreed to wait one year to deal with the issue of measuring the yield of B carcasses. Packers questioned the need due to the very small numbers involved in the various B grades.

C GRADE - Eliminated

D GRADE

1. D Grade - Fat thickness break would move to 15 mm from 20 mm for D1 cows. The intent is to create a premium D1 grade.

YIELD

A new yield formula will be used to identify more accurately the meat yield of carcasses on the basis of cutability. This will be identified on each carcass and can be used for price settlement purposes.

A grade ruler will be used to measure fat thickness and ribeye length and width - until a suitable instrument is developed to perform the calculation electronically. The formula will be % lean = 63.55 + 1.05 (muscle score) - 0.76 (grade fat).

The implementation date is set for April 6th, 1992

WHAT ARE THE IMPLICATIONS TO THE BEEF CATTLE INDUSTRY?

There are a number of obvious impacts.

1. Cattle with superior confirmation or that produce the highest yield of retail beef, will command a premium as the market place adjusts to the new system. Conversely, cattle with poor yield will be discounted.

The new yield formula has a much higher correlation to cutability than does a back fat measurement.

This will undoubtedly reflect back in the pricing of calves and feeders - even greater than in the past.

2. High quality heiferettes - will obtain an A grade while the lower end will fall into the cow grade.

This is the result of the elimination of the C grade.

3. There will be a more complete description of the characteristics of each carcass. This improved system of classification will create improved marketing opportunities for the product - and the potential for a number of premium products to satisfy a variety of markets.

At present the market tends to be divided as follows:

a) - the Quebec market favours a very lean product,

b) - the rest of the retail market in Canada tends to favor a lean product but with slightly more finish than the Quebec market,

c) - the food service trade, the U.S. market, and the Pacific Rim favour a product with a higher marbling score.

The proposed changes would meet the needs of the three market segments with:

Grade A: (trace marbling) - Quebec

Grade AA: (Slight marbling) English Canada retail trade

Grade AAA: (Small and greater) meeting the food service and export market preferences.

It should also be noted that there is still a considerable demand for marbled beef in the Canadian retail trade (approx. 30%). On the other side the "lean" market wants beef to be tender.

The reintroduction of a marbling score now allows for product to be graded and sorted to meet these varying needs. More importantly, it can now provide a price signal back to producers. This is important for breeding and marketing programs. It also will allow us to grade product in a manner that is essentially equivalent to the U.S. grading system - although we will continue to maintain a lean grade standard not found in the U.S.

- A: Very Lean

- AA: Equivalent to U.S. Select

- AAA: Equivalent to U.S. Choice

Further, both domestic and imported boxed beef in Canada will be required to maintain grade identification - if ungraded it must state so.

One would expect that this would create premium markets for high yielding carcasses in all three marbling categories. Consequently, there should be improved marketing opportunities for producers who develop breeding programs that can provide a consistent feeder animal to satisfy one of these niches.

Carcasses that are devoid of marbling will fall into the B grade and will suffer a price discount.

A separate issue is the value of fat. With retailers trimming beef closer and closer, most fast food outlets moving to vegetable fat, and the preference for leaner ground meat and hamburgers (i.e. McLean), fat trim is becoming worth less and less. Consequently carcasses with greater external and seam fat will be even more heavily discounted.

Genetics and specialized feeding programs will be required to serve these market segments in the future. Cattle selection versus overfeeding can and will

produce calves to meet all of these market needs. Already over 25% of our current A grade will meet U.S. Choice requirements. However at present this is more of a hit and miss proposition.

PRICE IMPACT

The price impact on finished cattle will ultimately determine the impact on calf prices. Every animal will be scored by yield and marbling. It is uncertain as to how quickly the market place will adjust to these new changes. The intent is to reward the highest value carcasses with the highest price - versus the old system which tended to average prices over the mix. The CCA has established the terms of reference to study the pricing of the product over the first twelve months to ensure the objectives are being realized and identify any possible problem areas.

I would suggest that it will take some time for all sectors to adjust to the new system and certainly to negotiate an acceptance of "equivalency" with the U.S.

Ultimately, the changes will hopefully impact with further improvement in the genetic make up of our herd and the production of a consistently high quality beef product that will maintain beef as the king of meats. Meeting consumer needs will be key to our long term viability.

DO HIGHER PROTEIN LEVELS MEAN BETTER PROFITS

Presented to the Manitoba Beef Seminar

January 22, 1991

by

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Introduction:

Commercial cattlemen have widely adopted crossbreeding as a means of herd improvement. This practice has dramatically increased the diversity of cattle entering Canadian feedlots. In particular, growth potential can vary from animal to animal depending on genetic make-up and frame size. For example, small to medium frame steers when placed in the feedlot at or shortly after weaning, will fatten at 408 to 454 kilograms. Large frame steers on the other hand have the potential to reach 590 to 635 kilograms.

In the face of such genetic diversity, beef producers must adapt their management, if efficient production is to be achieved. Management options include selective buying, sorting and feeding according to frame size, backgrounding versus finishing programs and the feeding of balanced feedlot rations that minimize input costs. With respect to nutrition, feeding management must be directed at producing a product that meets the grade and weight specifications of the local market place. Successful feeding

programs are based on the genetic make-up of the animal and rations are formulated for specific classes of cattle and for specific rates of production.

This presentation will review and evaluate current recommendations (National Research Council - NRC 1984) for energy and crude protein for medium and large frame steer calves. Conclusions and feeding recommendations are based on the results of a 3 year study conducted by us in the Department of Animal and Poultry Science of the University of Saskatchewan, on the energy and protein needs of cattle that differ in mature body size (frame size).

Experimental:

Phase 1: The initial phase of this study was designed to evaluate the influence of increasing energy and crude protein content on feedlot performance and carcass characteristics of medium (MF) and large (LF) frame steer calves. Respective frame sizes were represented by Hereford and Charolais cross steers respectively. All cattle were purchased locally and placed on feed shortly after weaning. Six experimental rations were evaluated. Each was formulated to one of two energy levels (73.5 or 78.5 % TDN) and one of three crude protein levels (11, 13 and 15 %). The rations were based on barley silage and barley grain with canola meal utilized as the sole protein supplement.

Phase 2: Four hundred and twenty eight LF (Charolais cross) steer calves were purchased from commercial sources for use in two feeding trials. In trial 1, 216 calves were randomly assigned to 24 pens. Each pen was assigned to 1 of 12 rations, formulated to 1 of 2 energy (73.5 and 78.5 % TDN) and 1 of 6 crude protein (11, 13, 15, 16, 17 and 19 %) levels. One hundred and ninety two yearling steers were used for trial 2. Initially assigned to a 166 day backgrounding program, which allowed for a daily gain of 0.5 kg, these animals were randomly assigned to 24 feedlot pens and fed the same 12 finishing rations utilized for trial 1.

In phase 1 and 2, the low energy (73.5 % TDN), low protein (11 %) diet was formulated to meet the NRC (1984) energy and protein requirements of a 317 kg LF steer gaining 1.36 kg/day and that of a 272 kg MF steer gaining 1.13 kg/day. Performance parameters monitored to determine the influence of treatment included average daily gain, feed efficiency, days on feed and carcass composition (daily rates of carcass lean, fat and bone gain).

Results and Discussion

Phase 1:

The MF steers showed no beneficial response to either increasing energy or protein content of the ration. Standard feedlot parameters such as average daily gain, dry matter intake, feed efficiency and days on feed were similar for all diets. Carcass characteristics such as weight, ribeye area and cutability

were not influenced by diet .

The most striking effect of diet on feedlot performance of MF steers was the influence of energy level on live weight at slaughter and consequently on carcass weight. Slaughter weight averaged 417 kg. One hundred and thirty-one carcasses were price discounted for not weighing in the desired carcass weight range of 256 to 327 kg. These results indicate that energy levels in excess of 73.5 % TDN (DM basis) are excessive for normal growth and fattening of 272 kg MF steer calves. If the objective of the feeding program is to raise animals that yield carcasses with acceptable weights and grades, then MF calves should be backgrounded or grown out to selected target weights, prior to placement on high energy finishing rations.

In contrast, LF calves responded to both energy and protein supplementation. Daily gain on low energy rations averaged 1.25 kg versus 1.36 kg on high energy rations. Average daily gain of the LF steers fed the 11, 13 and 15 % crude protein treatments were 1.23, 1.29 and 1.39 kg, respectively (values are means for both energy levels). A similar improvement in gain of LF steers fed supplemental crude protein was noted when performance was examined within each energy level (Figure 1). It is of interest to note that the improved response to supplemental protein was observed over the course of the feeding period and in particular from day 56 onward. No other performance parameter was improved by crude protein supplementation although some benefit of high energy feeding was observed.

Phase 2:

The feedlot performance of LF steers in phase 2 of the study was influenced by dietary treatment and management group. Calves placed directly in the feedlot (Trial 1) and fed high energy rations gained faster, more efficiently and spent less time on feed (15 days) than those fed the low energy diets. The improvement in daily live weight gain when high energy rations were fed, was reflected in an increase in daily carcass gain, which resulted from elevated rates of carcass lean and fat deposition. There was no beneficial influence of high energy feeding on the performance of the backgrounded yearling steers (Trial 2).

Similarly, feedlot performance of recently weaned calves (Trial 1) improved as dietary protein level increased. In particular, calves fed 16, 17 or 19% crude protein had higher rates of gain than those fed 11%. At 16% crude protein, the magnitude of this increase was 0.19 kg per day. This improvement in live weight gain was reflected in increased carcass weight and fat deposition rates. No improvement in the rate of carcass lean tissue deposition was observed when supplemental crude protein was fed. As with dietary energy, supplemental crude protein did not influence live weight gain or carcass composition of LF backgrounded yearling steers (Trial 1).

These results suggest that current recommendations (NRC 1984) underestimate the crude protein requirements for maximum growth of recently weaned LF calves placed directly on feed but not of backgrounded yearlings. However, regression analysis of the live

weight gain of calves fed diets that vary in crude protein concentration, revealed that dietary energy level influenced the growth response to supplemental protein. Calves fed low energy rations exhibited an increase in live weight gain and carcass weight gain as dietary crude protein level increased (Figures 2 and 3), while those fed high energy rations exhibited similar live and carcass growth rates, regardless of dietary crude protein concentration (Figures 2 and 4). Backgrounded yearlings fed low energy rations exhibited a similar but less pronounced improvement in live weight gain (Figure 5) and carcass weight gain as dietary protein concentration increased.

The increase in carcass weight gain, in response to supplemental crude protein, observed when recently weaned calves (Trial 1) were fed low energy rations, was accompanied by changes in carcass lean and fat deposition rates (Figure 3). Carcass lean deposition decreased as dietary crude protein increased to 16% and then gradually increased as dietary crude protein concentration increased further. The rate of carcass fat deposition, tended to increase as dietary crude protein increased. No effect of increasing crude protein concentration on carcass composition was noted for calves fed high energy rations (Trial 1) (Figure 4) or for the backgrounded yearlings (Trial 2).

This contrasting influence of dietary energy level on the response of LF calves to increasing dietary crude protein concentration, contradicts the hypothesis that growth is limited by the crude protein content (11% DM basis) of the control ration. If

this were the case, it would be expected that protein supplementation would improve performance on both dietary energy levels and in particular, one would expect that rapidly growing animals, such as those fed high energy rations, would benefit to a greater degree than those growing at reduced rates. In fact, since performance was improved only when low energy rations were supplemented, it would appear that energy balance rather than protein status, was improved by protein supplementation.

This conclusion is supported by the results of the slaughter and dissection procedure. Carcass analysis indicated that the improvement in carcass weight gain of calves fed low energy rations was the result of carcass fat deposition and not due to an improvement in muscle deposition as would be expected when a protein deficiency is corrected.

Conclusions:

The results of this study support the National Research Council (1984) crude protein estimates for MF steers fed from 270 kg. No economic or performance benefit can be expected by feeding such animals crude protein levels in excess of 11% (DM basis). Management programs for MF calves should include a period of frame development that allows for skeletal and muscle growth utilizing rations formulated to energy densities below that used in this study.

Large frame cattle in contrast, have been found to exhibit superior growth rates when fed crude protein levels in excess of

those currently recommended. The response to supplemental crude protein is modified by management factors such as dietary energy level and age. In particular, supplemental crude protein improved the growth of LF calves fed low energy rations from weaning. The increased growth however, appeared to result from carcass fat deposition. Based on these results, it was concluded that supplemental crude protein was not utilized to meet the protein needs of the animal but was diverted to energy metabolism.

One can therefore conclude that current NRC (1984) crude protein recommendations for LF cattle adequately predict actual requirements. If the objectives of the feeding program are to maximize gain and feed efficiency, as well as reduce time on feed, feedlot operators would be well advised to maximize the energy intake of LF cattle, particularly those fed from weaning.

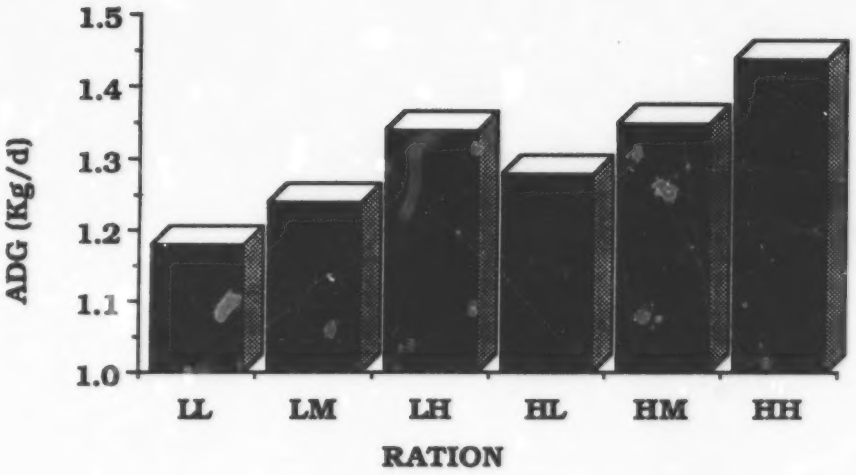

Figure 1. Average daily gain of large frame steers in phase 1 fed low (L = 73.5 % TDN) or high (H = 78.5% TDN) energy rations formulated to three crude protein (L = 11%, M = 13% or H = 15%) concentrations. Linear effect of protein level on growth of large frame steers fed low (P<0.07; r^2 = 0.64) and high (P<0.07; r^2 = 0.64) energy diets.

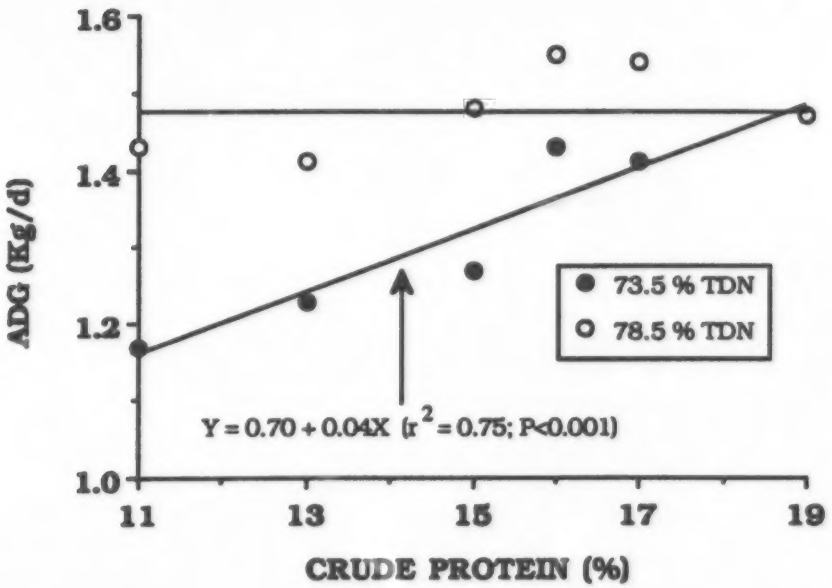

Figure 2. The effect of protein and energy on the average daily gain of large frame steers in phase 2 fed from weaning to slaughter (Trail 1).

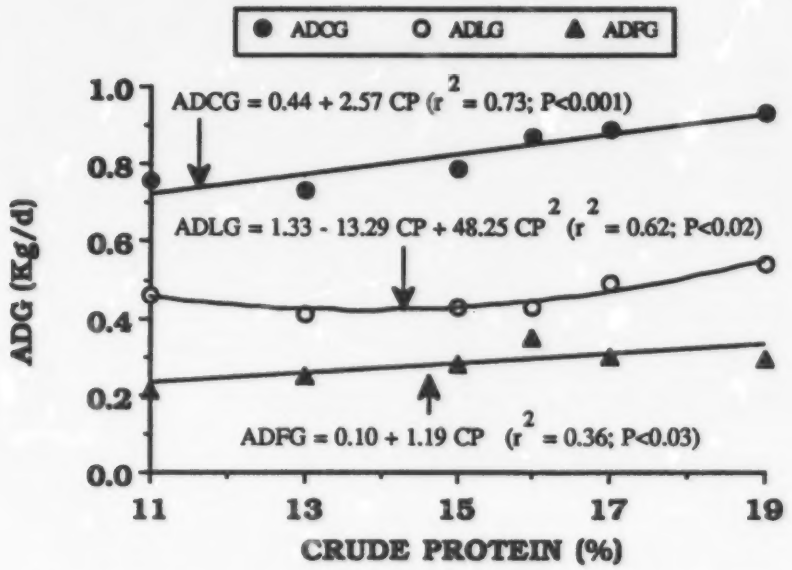

Figure 3. The effect of protein on the average daily carcass weight (ADCG), lean (ADLG) and fat (ADFG) gain of large frame steers in phase 2 fed a ration formulated to 73.5 % TDN (DM basis) from weaning to slaughter (Trial 1).

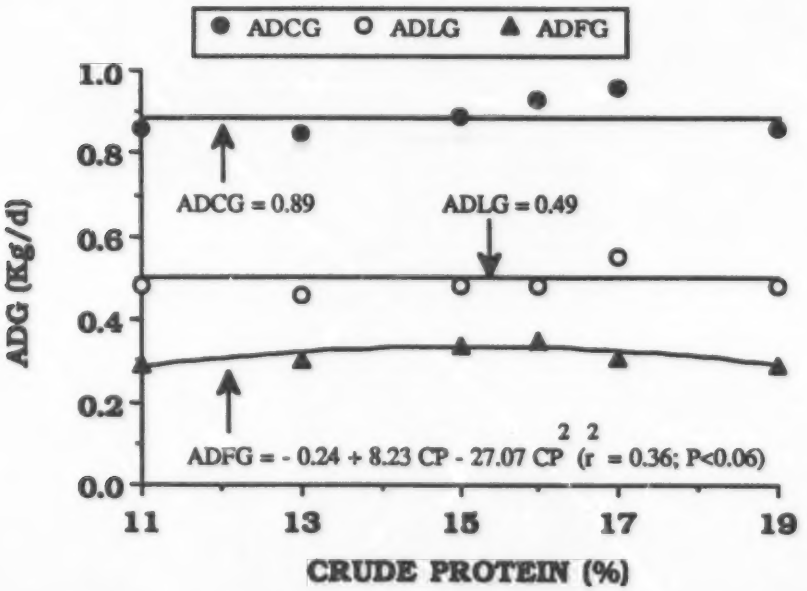

Figure 4. The effect of protein on the average daily carcass weight (ADCG), lean (ADLG) and fat (ADFG) gain of large frame steers in phase 2 fed a ration formulated to 78.5 % TDN (DM basis) from weaning to slaughter (Trial 1).

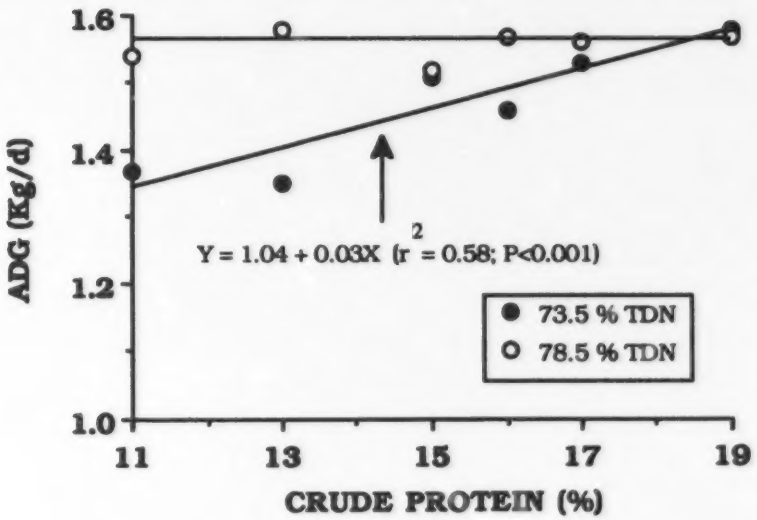

Figure 5. The effect of protein and energy on the average daily gain of backgrounded large frame steers in phase 2 (Trial 2).

MANITOBA CATTLE PRODUCERS ASSOCIATION AND MANITOBA RED MEATS FORUM UPDATES

By Sid Wilkinson, MCPA President
and Dave Fulton, MRMF Chairman

I would like to thank the MCPA members and directors for giving me the opportunity to serve the Manitoba cattle industry as your president. I am following several very capable and dedicated men in this position, these men have earned the respect of many people throughout the industry, and governments for both themselves and the association. With the support of our members and continued hard work by our board of directors, we can continued to be respected as the voice of the Manitoba cattle industry.

You will probably notice that our General Manager's title has been changed to Executive Officer. The Board of Directors felt that this was necessary to reflect James' responsibilities. He is not only the manager of the association, but plays a major role in lobbying for, and representing the Manitoba cattle industry. Also, as we get more involved with international discussions, it is imperative that our staff carry the same titles that are used in other countries, so they are treated with the same courtesies.

The coming year will be very interesting with several major issues being addressed at this time. The issue of grain transportation with the present regulations and method of payment of subsidies is the single most important factor influencing the western farm economy, if not the entire western economy. The present system which is highly regulated and which pays producer subsidies directly to the railroads is extremely inefficient and costly. It discourages further feeding or processing of grain on the prairies or diversification at the farm level.

I feel we have an opportunity to resolve this problem to the benefit of the whole western economy in the next several months. It will take a major effort on the part of everyone involved to clearly think our way through this problem, remove the emotion from the issue and come up with a solution based on logic and economics. The status quo is far to damaging to be an option. We need to accept the challenge to develop a better system and I urge you to become better informed and participate in the round of country meetings.

Another area of major importance is the current GATT negotiations. Canada is an exporting nation, particularly in agricultural products, therefore a successful agreement in the near future is extremely important. If the Manitoba cattle industry is to expand and be profitable we will need access to export markets. We have the potential to increase both the cow-calf and feeding sectors of the industry in Manitoba. We need a GATT agreement that will insure access to export markets and protect us from the dumping of subsidized product from other countries in our domestic market. No agreement will mean chaos and unfair trading practices in international markets.

Late 1991, an amendment to the National Farm Products Marketing Act was introduced into the House of Commons by the Hon. Bill McKnight, Minister of Agriculture. This will enable commodities to establish national check-offs which would be used to fund promotion and research.

When this legislation is passed, presumably sometime in early 1992, provinces will have to decide whether or not they wish to participate, in what form, and how much. Some type of plebiscite will probably be used to answer these questions.

The Canadian Cattlemen's Association, Beef Information Centre, Canada Beef Export Federation and ourselves have been strongly in favour of this legislation for a number of reasons. However, CCA and MCPA may be detrimentally effected.

One of the main reasons that a national check-off is being sought after is the dramatic inflationary effect that has been felt in the advertising industry. Of course BIC's income hasn't increased and some of their other programs, such as school education and retail point of sale, have suffered.

Another reason for pursuing a national check-off is the increasing cost of agricultural research and the limited dollars available. Agriculture Canada hasn't reduced it's commitment to beef research, although they have not increased it either so as to keep pace with inflation.

Nothing else has a greater impact on our profitability in the beef industry than promotion and research. Studies done in the USA and Canada have proven that beef advertising has increased cattle prices by 6% (or $30 on every $500) over what prices would be under normal market conditions. It has also been said that for every dollar spent in research, there has been a multiplying factor of $12 to the beef industry.

Now many of the nay-sayers will tell you that what consumers pay for our product has no impact on cattle prices, and that common sense has improved beef production not research. Well, if what consumers are willing to pay has no effect, then why has the recession in Canada and the USA pushed down cattle prices? And if pasture rotation, performance records, semen testing and shorter breeding seasons are common sense, why did research have to prove it first?

It is our duty as an industry to promote beef to consumers and insure that they are willing to pay for our quality product, even when times are tough, and we must correct the myths that are being spread about beef. It is also our responsibility to provide direction to research so it is best meeting our needs.

Of course, if we want to be succesful in the global market place, promotion and research will be the key to success. If we want to capture a major share of the lucrative Japanese market, then we will have to promote Canadian Beef as being superior. The Canada Beef Export Federation has already made substantive in-roads, but only has 1/6 and 1/10 of the budget as the Americans and Australian respectively, for this same market.

Research will hopefully provide us with the answers to producing a superior product more competitively and profitably in the global market. We must have these answers to remain viable.

Now, when the enabling legislation is passed provinces need to decide if they wish to participate. As I mentioned earlier, this will be decided by some form of referendum. The amount and type will also be determined.

The biggest reason for introducing a national check-off even though provincial check-offs already exists, is that if this is done properly, we will be able to impose it on imported cattle and beef from other countries. The United States already does this. Why shouldn't importers belly-up and help fund promotion and research in this country since they are already benefiting from it. Our commercials promote beef, regardless of origin.

Unfortunately, importers only have to participate at the lowest requirement that Canadian producers are subjected to. The size of check-off has yet to be determined but let's say for hypothetical reasons, that the levy was set at $1.50, $1 going to BIC, $.25 to CBEF and $.25 to research.

Remembering that this is hypothetical, referendums are then held. In Saskatchewan they make it $1 and that it is compulsory, everyone pays. Alberta makes it a $1.50 but it is mandatory-refundable, or you pay but you can get it back. In Manitoba we decide to make it $1.25 and it is an opt-out check-off.

Importers only have to meet the minimum standards that we decide to impose on us. Under this scenario, they would only have to pay $1 and they could opt-out, which I suspect they will.

For the national check-off to be successful, we must decide to have compulsory check-offs at the recommended levy, in this hypothetical scenario it was $1.50. If we decide not to, then this would not be a worthwhile venture.

Earlier, I had mentioned that a national check-off could also have a detrimental effect on the CCA and MCPA. Currently, MCPA uses $.45 of every dollar collected and CCA is forwarded $.13 from every Manitoba check-off.

The national check-off cannot be used for lobby efforts. We need to decide what should happen to the MCPA check-off, and how we can best fund the lobby efforts of MCPA and CCA? Should the national check-off replace part of MCPA's or all of it? Or maybe it should be in addition to ours?

In the first edition of BeefMan, the introduction to our strategic plan, "Focusing Manitoba's Cattle Industry" was laid out. One of the questions we are trying to answer is funding.

We are looking for your input. Over the next editions of BeefMan, we will present more information on the strategic plan so we can set goals for our industry sectors, cow-calf, feedlot and packer, as well as the MCPA. Any comments you have on this and the national check-off can be passed on to your director or myself.

The national check-off has a lot of potential, even with it's uncertainties. It has been estimated that it could raise an extra $2 million per year for beef promotion in Canada. That would go along way in getting the right information to an already suspicious public.

After two years of development and securing funding the Manitoba Red Meat Forum has embarked on a study to analyze red meat products, value added processing and domestic and international markets for Western Canada. $361,000 will come from Western Economic Diversification and the remainder of the $478,500 study will come from producer organizations (i.e. MCPA), industry and Manitoba and Alberta governments. The study is in four parts:

1) Analysis of the markets in North America for red meat products.
2) Analysis of the competitive advantage of producers, packers and other industry players.
3) A value added study of the industry to show the impact and potential achievable.
4) Finally a development of some strategic options flowing from the other parts of the study to provide direction for industry and producers.

We have signed contracts with the University of Manitoba and Canada Grains Council to begin the study on November 1st. We expect reports to be issued along the time frame as parts of the study are completed.

The comprehensive study of Western Canada's industry should help spur new investment in the industry by evaluating the economic potential of new facilities and products and by providing specific and practical recommendations for expansion.

The forum continues to bring industry people together to identify on going problems or opportunities.

The Forum's structure is also formalized with a constitution and bylaws specifying purpose and players involved.

With these and other issues facing us, it will be a challenging year. We are fortunate to be working in an extremely interesting industry in a country that allows us to have some influence in the policies and forces that effect our industry. We Wish you all the best in '92.

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